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EMBELLISHMENTS.

January.—"The Queen of the Fiesta at Los Angeles." Negative by F. G. SCHUMACHER, Los Angeles. Print on Velox Paper.

February.—Miss Ada Rehan as "Katharine." Velox print from a negative by SARONY, New York. Napoleon Sarony. Bust in copper by D'ARMORE. From a photograph by FALK, New York. "A Bevy of Fair Women." Half-tone from photographs by J. E. & J. H. RÖSCH, St. Louis.

March.—"The Neighbors of the Wayside Birches." Velox print from negative by WALTER B. SWIFT, Wellesley Hills, Mass. "The Old Mill." Engraved from a photograph by J. WESLEY ALLISON, Philadelphia. "Mary Howe." Six poses from the mad scene, opera of "Lucia." Engraved from photographs by JOHN G. HOWE, Brattleboro, Vt.

April.—"The Coquette." Glossy Velox print from negative by W. M. MORRISON, Chicago, Ill "The New Dress." Engraved from photograph by S. L. STEIN, Milwaukee, Wis. "Suggestions in Posing and Lighting" Engraved from photographs by W. M. MORRISON, Chicago, Ill.

May.—"A Portrait." Negative by HOLLINGER & ROCKEY, New York. "Photogravure Board." Prints by NATIONAL PHOTO PAPER AND CHEMICAL Co. "The Laughing Girl." Engraved from a photograph by B. F. FALK, New York. "Playmates." Engraved from a photograph by GEORGE G. ROCKWOOD, New York.

June.—"Miss Maud Adams." Matt Velox print, from a negative by W. M. MORRISON, Chicago, Ill. "Sunset and Evening Effects." From photographs by L. V. KUPPER, Edinboro, Pa. "Child Life." From a photograph by J. A. BRUSH, Minneapolis.

July.—Eidelweiss." Photogravure print by the PHOTOGRAVURE AND COLOR Co., New York. "A Group." By PACH BROS., New York. Engraved from a photograph. "A Landscape Study." By H. S. MORTON, Hoboken, N. J.

August.—"Dreams of Empire." Negative by J. C. STRAUSS, St. Louis. Prints on Carbon Velox paper. "Example of Portraiture by Strauss." Half-tone engraving from a portrait by J. C. STRAUSS, St. Louis. "Rosa-rosarum." Half-tone engraving from a portrait by DE VOS & HOGUE, South Bend, Ind.

September.—"Sunset." Velox print by NEPERA CHEMICAL Co. From negative by C. C. LANGILL, New York. "A Gem from a Grand Prize Portrait Exhibit." Engraving from a photograph by J. E. & A. J. RÖSCH, St. Louis. "Music Hath Charms." Engraved from a photograph by C. M. HAYES & Co., Detroit.

October.—"Emma Eames." Negative by FALK, New York. Velox print on carbon velox paper. "A Lady of Fashion." Engraved from a photograph by F. G. SCHUMACHER, Los Angeles, Cal. "The End of a Summer's Day." Engraved from a photograph by L. V. KUPPER, Edinboro, Pa.

November.—"The Village Carpenter." Velox print from a negative by GEORGE E. TINGLEY, Mystic, Conn. "Examples of Posing and Lighting." Half-tone engravings from photographs by LOUIS THORS, San Francisco. "A Day in June." From a photograph by ALFRED CLEMENTS, Philadelphia.

December.—"Orino." Negative by W. N. BRENNER, Cincinnati, O. Velox print on rough carbon velox paper. "The Late Archbishop of Canterbury." From a photograph by C. E. FRY & SON, London. "Moll Pitcher." Engraved from a photograph by GUSTINE L. HURD, Providence, R. I.

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ON THE GROUND-GLASS.

The Ground-Glass, foreseeing better days for our craftsmen of the future, ventures to wish every reader of this MAGAZINE a prosperous and happy New Year.

At this, the beginning of its thirty-fourth year of watching and working, *The Ground-Glass* plainly sees that it could have been saved a great deal of work if its conductor had had the foresight, some thirty years ago, to have procured a rubber stamp for the beginning of his New Year pages, reading: "We promise to work more zealously for our patrons during the coming year than we have ever done before;" because it is proper to begin all January Ground-Glasses with some such obligation in order to maintain a fair subscription list for the maintenance of the publisher; and then add, "Now is the time to renew."

That duty was not attended to by the laggard conductor, but *The Ground-Glass* has his order to record these obligations once more. This it now does, and dutifully promises to follow him until he grows tired of it. Let us look no more backward, then, but forward, and try not to do too much.

The Ground-Glass confesses to having a "crank," which it believes cannot be turned "too much" for the disciples of the camera, although it has been often accused of such overdoing. Only recently a letter was received, from which the following extracts are made:

"Oh! say, Mr. G. G., won't you give us something new? Everlastingly you are writing about 'Art.' From one month to the other it is *art!* ART!! ART!!! Do you take us for a lot of sheep to be driven into your cote at your will? Tell us how to make paste, and our own brushes, and chemicals; and throw in a little rest."

Then this correspondent repeats a story of the time of the young shepherd Marsyas for the purpose, it is conjectured, of trying to frighten *The Ground-Glass* from its duty. The story is this:

"Marsyas stumbled one day when searching for a lost sheep, and, rolling over, discovered the flute of Minerva. He was rash enough to sit up and immediately enter into a musical contest with the God of Music. Of course, there was no chance for Marsyas; he was vanquished, fastened to a tree, and flayed alive." (He was photographed during his dying agonies and his skin was bought up by one of the emulsion companies.) "Look out for yourself."

The *true* inwardness of all this is probably that the aforesaid correspondent is one of those "combined-bath toned" obstacles to permanent photography, who holds that photographers attempt "too much" when they attempt "art" in their works. Of course, none of us believes that, and agree to consign the pessimistic writer behind us, with all the other bad things of the past. But let us not overdo in any respect.

Charles Kingsley said: "There are too many people in the world who are not what they ought to be, and what they really wish to be, because they are weak. They see what is right and admire it, but they have not courage or determination to do it." How true this is in the case of many photographers. If you had more faith in your art, gentlemen and ladies, you would reach a higher standard and overcome your weakness. There is everything to encourage and prompt you to do your best. You won't do "too much," if you work thoughtfully.

Speaking of encouragement reminds *The Ground-Glass* of the things that are said for photography and photographers by the public and by the *Press*. Before dry plates asserted themselves a photographer was looked upon with but little favor by either of his chief employers—simply as a dire and dirty necessity only. Now the worthy photographer receives in every way all the encouragement he wins. Lest there be any doubters of this, and as there cannot be a better time than the first of the new year for it, let *The Ground-Glass* repeat one or two "encouragements" that have been recently given. The first is from the *New York Herald*. In one fell swoop it brings our profession right up to the present, and in one generous push places us all where we belong. The subject of the *Herald's* remarks is "The Camera." It says:

"The future of photography is one of boundless progress. At first, in the days when Daguerre succeeded in fixing an image on a copper plate, it served us well as a curious and profitable invention. Later on, when dry plates came to the front, the camera was in the hands of every tourist, who thereby obtained pleasant souvenirs of his various wanderings. Every nook and corner of the continent that had anything picturesque in it surrendered to the magic art. The camera was useful because it added to the happiness of mankind, but at best it was a luxury.

"Now, however, it has taken on a different complexion. It has become the willing and subtle servant of science, worth all the genii that imagination has produced. It has an eye, somewhat blurred as yet, that pierces all substances as though they were nothing but thin air. Under the Aladdin-like ability of Röntgen and his comrades in all parts of the world it has been changed from a toy to an ally of medicine. The human skull presents no obstacle, for the wonderful ray thinks nothing of entering the brain on an exploring expedition and returning with a full knowledge of whatever disturbance may exist there. The puzzled doctor is puzzled no longer. He explores every part of the body, and at a glance discovers what is abnormal in any of its functions.

"Still we are on the threshold. What can be seen excites surprise, but under new conditions nothing can be hid. We shall learn the whole story, unless science gets tired and sits down for a while to rest. The future is big with possibilities, and by and by we may learn how to grow old gracefully, or, better still, how not to grow old at all."

Why do we find a great newspaper so much more willing now than in the "wet" days to give us proper acknowledgment

well-earned? It is because we have earned it by industry and care. Instead of being ignored, as of old, the deserving photographer of to-day is waited upon, courted, and interviewed by the gentlemen and ladies of the *Press*, so that these literary gourmands may keep the interested public aware continually of the growth of our art. In a recent issue of the *Toledo Blade* is an instance of this. The artist interviewed by the *Blade* reporter is a well-known watcher of *The Ground-Glass—i. e.*, Mr. Van Loo, of Van Loo & Trost. His work is well known to the readers of this MAGAZINE, and they are (with the rest of the world) to become better acquainted with it during the rest of the new year. Here is what is recorded by the *Blade:*

"'Photography used to be a trade; it is now a profession, as well as an art,' remarked Mr. Van Loo yesterday, 'and in this connection photographers should be treated on the same plane as physicians and lawyers.' One does not ask his doctor to come on numberless visits without remuneration unless a cure is effected. You take it for granted the man to whom you intrust your bodily health knows his business and is doing all he can for you, with the latest and best methods that his science commands. In the same way the person who intends to be photographed should go to some one in whom he has confidence, and then allow the artist to be the judge as to the pose and character of the portrait. Of course the sitter can have general ideas which should be told to the artist; the detail, however, should be left entirely to him. A thing to be remembered here, as in so many other avenues of art, is that the literal is not always the highest truth. And even the efforts toward strict naturalism, if by two different persons, must be colored by the personality of the artists. The expert in photography can identify the work of different camera practitioners quite as readily as the expert in painting identifies varying personalities in that medium."

Such good words as these are plenteous in all directions at the present day. *The Ground-Glass* maintains that they are full of encouragement.

The Ground-Glass, while asserting its loyalty to the photographic fraternity, and while proud of our art aspirants, is not unmindful of the fact that many serious mistakes are made in the effort after artistic results. These mistakes arise from actual ignorance of art principles sometimes, and oftener from having a superficial knowledge of them. In other words, from attempting "too much." Consequently some pretty severe criticisms follow. At the Celoron exhibition there were some meritorious pictures exhibited which were so full of æsthetic blunders as to neutralize all the enjoyment possible from them. Some of these are now recalled. One series represented pictures, made out of the studio with an effort at "naturalness," that were so badly arranged as to make them repulsive, although they gave evidence of thought and care and skill. Another series was of naked figures posed after pathetic and dramatic conceptions, but so badly managed as to prove that the one who photographed them had no knowledge whatever of the human anatomy. No one in nature, even when half-drowned, or dead—not even when alive—would naturally take such attitudes as were forced after the ideas of the photographers in question.

Apropos of this last-named class we find in a late issue of our valued contemporary, *The British Journal*, a review of *Photograms of 1896*, in which appears the following:

"We cordially indorse a manly and outspoken protest against the photography of the merely naked that is uttered in the volume. Our American photographic

friends are especial sinners in this respect, and we hope that they will seize the advice here given, to go through a thorough course of study with competent advisers when undertaking such work, and to exhibit a considerable diffidence in showing their results. We can all the more appropriately subscribe to this wise counsel from the fact that before us, as we write, are two American photographic publications having nude studies that are simply crude and vulgar records of physical facts."

All of which *The Ground-Glass* cordially and fraternally accepts.

There seems to be a growing desire for "criticism." Never in the experience of *The Ground-Glass* have photographs been sent to the conductor in such great number, with the request for "criticism," as of late. This is all very well for the senders, but it would soon prostrate the wished-for critic if he should attempt to do personally what is demanded of him. He would not have time for other duties. The study of good art books and the lives of great artists and the examination of their works is the true way to gain advancement.

A word as to critics from Mr. Chase. In a recent lecture he said:

"Those who write criticisms should for several reasons not be taken too seriously. I have been asked by many if I do not make an exception in the great English writer, Ruskin. Ruskin was a great scholar and master of English literature, and he is, in my opinion, more to be regretted than any other critic of our time, simply because his misconstrued conceptions are expressed in such magnificent form that many do not realize that it is his fine manner of expression that has led them to believe that his reasoning was sound. It will undoubtedly take a long time to entirely obliterate the great harm done to the cause of art by this one man."

In conclusion, Mr. Chase said "that it is impossible for a literary man to comprehend what real art is. I do not care to be understood as advocating the idea that only artists are capable of understanding works of art. I will say that if successful artists could be induced to write for reviews you would get a more intelligent example to convey the idea of what art really is."

This is all true, and yet there is the added truth that we should all become more or less critics, as well as more and more artists.

SOME REMARKS ON SILVER PRINTING.

BY J. STEINFURTH.

It is not likely that I can offer the readers of this Magazine anything new on a subject as old as albumen paper printing; but, since the flood of collodion and gelatine printing-out paper is beginning to ebb a little, doubtless some will turn back to old albumen and desire to revive their knowledge of its manipulation. There may be many a method far superior to it yet to be made known to the profession; perhaps platinum and carbon are in the advance guard of such methods, but I think for general work nothing has yet come to take the place of albumen paper. I can only give the result of my own experience, together with such formulæ as I have found to work well in practice.

First, as to the paper. Never use any variety of paper but the most approved, for, no matter how excellent the negative may be, or how careful the printer may be, it is next to impossible to get beauti-

ful prints from inferior paper. Did you ever think of the qualities required in any paper which must pass through the many solutions and washings which produce the perfect print handed to the customer? A poor quality of paper must necessarily come out much the worse for wear after the various treatments to which photographic prints are subjected.

Albumen paper comes to us ready salted with a chloride, so that when we float it on the silver solution there is found in the albumen film chloride of silver. I do not pretend to know much about the chemical action that goes on in printing, but I am told that the albumen also forms one of the chemical elements; that there is an albuminate of silver there too. We know, however, that the strength of the silver-bath employed depends upon the strength of the salting of the paper, so that it is well to learn what relation exists between bath and paper.

Albumen paper which is weakly salted requires a weak sensitizing bath, whilst a strongly-salted paper demands a much stronger bath. It must be borne in mind that a weak silver-bath parts with its silver sooner than a stronger bath and requires more frequent strengthening. The strong nitrate of silver also more thoroughly coagulates the surface of the albumen film and stops the penetration of the silver salt. Sometimes when a weak sensitizing solution has been used the image goes through to the paper beneath the albumen, and the pictures are never as brilliant as those made on paper sensitized with a strong silver solution. In this latter case the picture is more on the surface and, I think, less permanent, resembling the surface image of the aristotype, but I believe not as fugitive as aristotypes. I have no faith in their permanency.

In practice I make use of the following formula, which I modify, of course, to meet the exigencies of the case:

Nitrate of Silver . . .	40 grains.
Water (pure)	1 ounce.

In cold weather the quantity of nitrate of silver is 50 grains. I find no advantage in the use of distilled water, at least in Philadelphia, as our water contains but a small percentage of chlorides, and its precipitation is insignificant; but if there is an appreciable amount of salts in the water used, distilled water should be employed in preference.

Always make up a large quantity of solution—say, a gallon. A small quantity is soon contaminated with particles from the albumen paper, and has to be renewed more frequently.

There should be about two inches depth of liquid in the sensitizing dish, which should be large enough to float an entire sheet of paper.

After the silver is dissolved make it strictly alkaline by the addition of a drop or two of ammonia, and expose the solution in a bottle to the action of strong sunshine for half a day. The liquid will first grow turbid, then the impurities will settle down to the bottom in the form of a brown powder. Pour off the liquid from this and filter it through two thicknesses of paper or a plug of moistened cotton loosely placed in the neck of the funnel.

I never add anything to the silver-bath either to improve it or to doctor it, such as nitrate of ammonia, etc.; but I always keep it just slightly alkaline by the addition of liquor ammonia. The bath should not, however, be decidedly alkaline. Add the ammonia diluted with a little water; not in its concentrated form. Put a piece of red litmus paper in the solution, and if it quickly turns blue the bath is too alkaline; it should turn slowly to a blue.

When you have finished floating the paper filter the bath, so as to have it clean for the next time you desire to use it. Before floating the first sheet remove the scum from the surface of the bath by running a

narrow strip of albumen paper over it. Test the bath from time to time to see that it is slightly alkaline. Have a stock solution of silver to strengthen the bath, as it weakens below the test. Keep all dishes scrupulously clean; rinse them out before and after using. The manner of floating the paper differs according to individual preference. Some draw it over a glass rod after the floating, but I merely hang the sheet up so that the superfluous silver runs down to one corner and drops on to a clean piece of blotting-paper, which absorbs the waste.

The paper to be floated should not be too dry. If it is stiff and unyielding, hang it for a short time in a damp atmosphere till it becomes somewhat limp. The time necessary to float depends upon the strength of bath as well as temperature. A minute and a half is generally enough.

In practice it is best to rub over the surface of the albumen with a Canton-flannel pad. This, we are told, destroys the fungous growth on the surface and makes it electrical. Paper so treated takes up the silver more uniformly, and there is little liability of the formation of "tears."

After the paper has been well drained, hang it in a warm room to dry as quickly and thoroughly as possible, so as to have it ready for fuming. I dislike to go too much into detail on the subject, but it may be of interest to someone. Fuming is best done in a box of sufficient size to hold a number of frames, on which the paper is fastened with clips. The frames are so placed as to be evenly exposed to the influence of strong ammonia, which is placed in a shallow dish on the floor of the box. A false bottom pierced with holes allows the vapor of the ammonia to ascend. Do not fume less than a half-hour.

The operation of printing requires an article entirely devoted to its explanation.

One receives all sorts of negatives, and is expected to produce equally beautiful prints therefrom.

So much depends upon the quality of the negative. It should neither be too intense nor too thin; but there are methods of getting good results in many cases without having recourse to doctoring the negatives, which the printer does not always care to venture upon.

With thin negatives the aim must be to get as much contrast as possible in the print; while with dense negatives we must keep down the contrast. A thin negative is, however, not necessarily a weak one as the term is commonly understood. With judicious printing some varieties of thin negatives give excellent results, because they often possess an abundance of rich half-tones in the shadows combined with softness in the high-lights. These qualities can be completely lost by rapid, careless printing, burned out by the violent action of the sun. Such a negative should be printed slowly, under several tissues, and if it is very weak the paper should be floated on a stronger bath and given a little extra fuming. Brilliancy is obtained by keeping the image on the surface of the paper. It is for this reason that aristotype paper gives such good results with thin, weak negatives, rich in gradation.

There are various dodges for retarding the action of light upon thin portions of uneven negatives so as to reduce contrasts. One of these is dabbing the spots with colored varnishes, etc.; scraping away the intense parts of the film, or rubbing them down with strong alcohol. But when a negative needs much treatment it is best to put it in the hands of a judicious retoucher. It is surprising to see how much a negative can be improved by careful treatment. Sometimes amateurs spoil their prints, as far as brilliancy is concerned, by exposing them to the influence of too strong a light while examining the progress of printing. The print is thus often overcast

or tinted, the high-lights being degraded. The experienced printer can judge more quickly of the proper depth of printing than the amateur, and also does not examine his frames as often, unless he has a number of ticklish negatives on hand. The amateur should take the print behind the curtain, if he finds it necessary to gaze at it for a little time.

I have said nothing about toning, but will endeavor to deal with it in a further paper.

AMIDOL AS A DEVELOPER FOR POSITIVE BROMIDE EMULSION.

BY MILTON B. PUNNETT.

WHAT would be the effect on an image, formed from a positive bromide emulsion, of varying the amount of sodium sulphite in an amidol developer? The experiments necessary to answer this question were made on Seed's new positive celluloid films.

No. 1. *First Experiment*, with the formula:

Amidol	1 gr.
Sodium Sulphite (dry)	4 grs.
Water	80 c.c.

It developed quick and clear, with a tone varying from black to olive-black, same as given by the metol-hydrochinone developer recommended in the printed formula.

No. 2. *Second Experiment*, with the formula:

Saturated Solution Sodium Sulphite	160 c.c.
Amidol	2 grs.

The resulting image did not have as much snap as in the previous experiment, but the color was a fine blue-black. The blue was more pronounced than I had ever seen before in an image developed from a bromide emulsion.

No. 3. *Third Experiment*, with the formula:

Solution No. 2	80 c.c.
Amidol	2 grs.

The solution from the second experiment was about saturated with amidol as very little, if any, of the 2 grammes would dissolve. Filtered and an equal amount of water added, this developer gave a fine rich black image.

An analysis showed that a developer of similar constitution could be made by taking

Sodium Sulphite (crystals)	150 grs.
Water	400 c.c.
Amidol	5 grs.

The keeping quality of this developer is not as good as a more dilute solution, and seems to diminish with an increase in the amount of amidol.

While experimenting some time ago with amidol developers, I found that an addition of hydrochinone had a tendency to preserve them. The following developer can be taken as a fair sample:

Amidol	2 grs.
Hydrochinone	1 gr.
Crystallized Sodium Sulphite	18 grs.
Water	400 c.c.

Experiments showed that the hydrochinone in this formula had little if any developing action.

PAPERS FOR PROFESSIONAL PHOTOGRAPHERS.

BY JOHN A. TENNANT.

XXII. SPECIALTIES.

SOME few weeks ago I enjoyed the pleasure of a drive with the editor of the MAGAZINE along the country roads of southern Jersey. Our route lay through a succession of fruit farms, and we were talking of 1897 and its prospects. I spoke of my lack of a subject for this month's paper, and, true

to his philosophy, my companion remarked: "Keep your eyes open and you'll find it." Surely enough, before the drive was over I had found the suggestion I wanted—in a cranberry bog.

Professional photography is so like a fruit farm that it might be spoken of as a twin brother. It has its fields and livestock, its good and bad seasons, its peculiar difficulties, and the same everlasting grind the year round. So I thought as we went along at an easy pace. Among the farms we passed was one where the owner was clearing away the rotten timbers of a decayed forest from a large expanse of swamp to create a cranberry bog. Now, a swamp is useless on a farm, takes up space but brings in no revenue, while a cranberry bog, properly worked, is a little gold mine to its owner.

The suggestion here is plain and comes most appropriately at the beginning of the new year. The undeveloped possibilities of the photographer's business should be considered as so much swamp land, and forthwith turned into cranberry bogs or their photographic equivalent. In other words, push a good, profitable specialty into your 1897 business and make it go.

I think I can hear the professional grumbler say: "Yes, yes, that's all very well; but what particular sort of cranberry bog can I create in *my* business?" The grumbler, like all his kind, is lazy, and wants me to do his thinking for him. I cannot do it here, in a paper written for a few thousand men working in circumstances peculiar to each case. All I can do is to set my readers thinking; that accomplished, photographic cranberry bogs will speedily become plentiful.

There are plenty of specialties for the enterprising photographer who seeks to make 1897 a successful year. The thing is to choose the one specially adapted to the business and to put plenty of work into its introduction. Pastel portraits, small colored pictures, artistic frames, combination pictures, multiple portraits, bas-reliefs, carbon prints in non-photographic colors, printed with wide margins on appropriately tinted mounts, platinotypes, plain silver prints, porcelain vignettes, and other similar specialties occur to the mind as opening business possibilities. Few of these have the merit of novelty, but that is not essential, the chief requisite being something not already made common, and pushed with enterprise and confidence.

It is surprising that pastels and colored pictures are not taken up more enthusiastically by the fraternity. The artistic taste of the public has been educated to appreciate good work in these lines and to be prepared to pay for it. But it must be good work, well chosen for attractiveness of subject, and the photographic as well as the color part must be thoroughly well managed. There is money in frames also. I do not mean in framing as it has been done by photographers in the past, but as it is being done to-day in our large cities by workers who believe that the framing of a picture is as important as the production of the picture itself. The narrow oval and rectangular gilt and ebonized frames now so popular are especially adapted for cultivation as a studio specialty. They are generally admirable in design and tasteful in appearance, enabling one to get a good price for them when an attractive picture is shown with them. They occupy very little room in storage, and being boxed separately are much less expensive to carry than mouldings, which get bruised or damaged either in transit or storage. The "Costume Portrait" facing page 208 of the May, 1896, issue of the MAGAZINE supplies an example of the kind referred to. The Celoron exhibits in the October issue offer other examples.

Combination pictures also offer a profitable specialty field. They may be varied infinitely according to the taste of the pho-

tographer. A reference to pages 360–361 of the August, 1885, number of the MAGAZINE gives useful information concerning this introduction, which has been successfully worked by more than one leading photographer. Messrs. Van Loo & Trost, to whom it is a pleasure to refer as a firm full of praiseworthy photographic enterprise, have just published an artistic little booklet devoted to "combination pictures" which will surely prove a business bringer. The illustrations are remarkably clever, and the reading matter may be taken as a good example of attractive advertising. At the end (as a *finis*, which should give them immortality!) is printed the persuasive verse:

> "If you have beauty,
> Come, and we'll take it.
> If you have none,
> Come, and we'll make it."

For a middle-class trade, where quantity as well as quality draws patronage, Klay's multiple pictures can be relied upon to bring business. This is a specialty which deserves more attention. Carbon or platinotype portraits, mounted and finished in uncommon ways, may be profitably handled as specialties in a business where they have not hitherto been used. Some of the highest-priced work of the best photographers consists simply of these classes of portraiture. Porcelain pictures are altogether different in appearance to the ordinary photograph; they may be introduced in all sizes, preferably printed in carbon, so that the color of the picture may add to its attractiveness. Such portraits bring fancy prices.

A little independent thinking will bring to mind a variety of special lines, similar to these mentioned, which only need pushing into prominence to become profitable. I need only add, in conclusion, that the introduction of a specialty requires to be well advertised. This may be done in any way which commends itself as within the photographer's means. Undoubtedly the advertising booklet is the most profitable way to secure business. Full particulars of this department of business may be found in the articles on advertising given in the March and April, 1895, and the January and March, 1896, numbers of the MAGAZINE.

HECKROTH'S PHOTOMETER.

To the beginner in carbon printing the determination of the exposure of the sensitive tissue is one of the earliest difficulties. This arises from the fact that, unlike albumen and other silver printing papers, the carbon image does not "print out," and its progress cannot be watched. The exposure of carbon tissue, therefore, like the exposure of the sensitive plate in the camera, has to be gauged by experience or calculation.

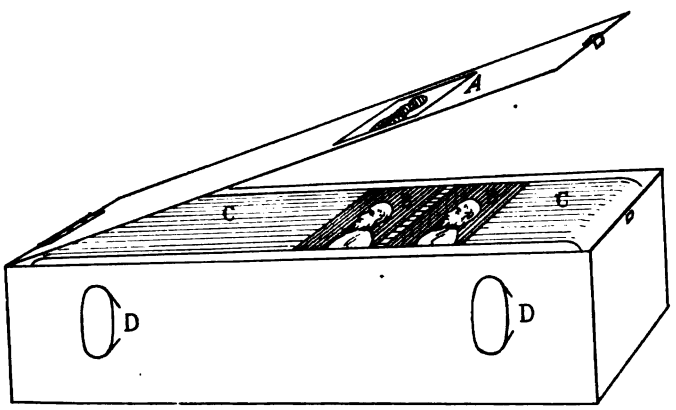
Many forms of exposure calculators, called photometers or actinometers, have been devised for this purpose. Details and diagrams of several may be referred to in Wilson's *Cyclopædic Photography* and Vogel's *Progress of Photography*. Most of these provide for the exposure of a strip of silver paper until the exposed portion reaches (by darkening) a tint known as "standard tint" painted on the lid of the instrument. According to the density of the negative to be printed in carbon it is judged to require as much exposure as will suffice to produce one, two, three, or more standard tints on the paper in the photometer.

Heckroth's photometer, of which an illustration is here given, offers a more direct method than the use of a standard-tint photometer, in that the tint is done away with and a small standard negative, approximating in density the one to be printed in carbon, is used in its place. For

use in this photometer, therefore, a set of small negatives is required, varying in density according to the general average of the negatives produced in the studio. A set of six will be found to give ample selection. As carbon tissue, sensitized by the usual formula, is so many times slower or quicker in printing than albumen paper, the exposure of a piece of silver paper under the photometer negative will, with a little experience of negatives and tissue, enable the printer to correctly judge of the exposure required for any negative from which carbon prints are required. As a rule, standard sensitized carbon tissue is as rapid in printing as albumen paper under a good negative, hence the judgment of exposure is easier in practice than in description.

Mr. Heckroth's photometer cannot be obtained commercially, but may easily be constructed for home use. We repeat his description of it for the benefit of those who did not receive our December number, in which his article on carbon printing appeared:

It is a box about three and one-half inches long by one and one-half inches wide, and one and one-half inches deep, with a lid hinged on one of the ends and a clasp or button on the other. About one-third of the length of the lid, nearest to the end not hinged, there is a small square opening cut, in which is placed a small negative, face down. On each end of the box there is a piece of round wood run directly through from side to side, like the keys of a violin or banjo. The keys on the inside have a slit cut into them through which is passed a strip of albumen paper running from one key over a strip or block of wood on the inside of the box (which will bring the paper in contact with the negative on the lid when the lid is closed) on to the other key. When one print is finished the key is turned until a fresh part of the paper appears under the negative and is ready for another print. This works very much like an ordinary roll-holder. The lid may be raised and the print watched from time to time. The keys should be turned so that the paper will move toward the hinged end; by so doing the first print will show while the second is printing, which is very good when there is any need of the last print being compared with the one printing. A thin negative is the best for use in this style of "meter," about one-third the density of the negative from which the carbon-print is to be made. A number of these "meters" may be had on hand for nega-



PHOTOMETER.

A, negative on lid. B B, prints on strip of albumen paper. C C, strip of albumen paper, running over a block of wood flush with top of box. D D, handles running through the rollers which carry the sensitive paper.

tives of different density, or the frame holding the negative may be constructed so that negatives of different density may be fitted or removed at will. It seems hardly necessary to remark that the photometer must always go out in the same light with the negative. In practice the photometer goes alongside the frame.

ACETYLENE.

OUR European exchanges continue to give considerable prominence to the subject of acetylene and its uses as a photographic illuminant. Apparatus for generating the gas and its employment in portraiture and lantern projection has been placed upon the market, and it appears to be used in some measure (chiefly experimentally) for these purposes. From a careful survey of all that has appeared concerning the "new light," we are not disposed to lament the fact that it is as yet comparatively little known or used on this side of the Atlantic. The chief fact at present discoverable is that acetylene has wonderful possibilities for all purposes where brilliancy of illumination is desirable, with the proviso that, up to this date, its use seems to be attended with considerable danger. We say this advisedly because, in face of the oft-repeated guarantees offered by makers of acetylene apparatus concerning the entire absence of risk or danger, many reports have appeared of grievous disaster attending its use, and it is classed as an "explosive" or "dangerous risk" by insurance companies and those who have to deal with its transportation.

For the information of those unacquainted with acetylene it may be well to recall the fact that it is a hydro-carbon gas evolved when calcium carbide is brought into contact with water. Calcium carbide is manufactured by fusing together at an intense heat calcium and carbon. The chief supply of calcium carbide at present comes from Niagara City. It costs about twelve or fifteen cents per pound in England, whither it is exported. As far as we can learn it is not commercially obtainable here in small quantities. One pound of calcium carbide is said to produce by automatic generation a fifty-candle light for five hours. It is thus shown to be relatively cheaper than coal-gas as an illuminant. It produces less heat than coal-gas and consumes less oxygen. It is practically equal to sunlight in actinic power, and is said to give in photography a truer color rendering than any other artificial light except the incandescent electric light, as well as to cause less strain upon the eyes.

Among the disadvantages charged against acetylene are its peculiar odor; that it is poisonous; and that it is explosive. Of these the latter charge seems to be the one most worthy of consideration. As commercially obtainable in Europe acetylene is either produced from calcium carbide by a generator, or is compressed in a cylinder similar to the oxygen and hydrogen gases used in lantern work. If there be any choice as to which of these two sources of supply is the safer, the preference must be given to the generator. At a recent meeting of the Royal Photographic Society, at London, Mr. T. Bolas asserted that, as the result of many years' experience with acetylene, he could say that it "was auto-explosive in the same sense that dynamite was auto-explosive." When compressed in cylinders there "was danger in the excess of force stored up," and he compared it, in this form, to "a weight suspended over one's head, and one did not know what would release the weight."

An acetylene generator generally has as

its main features a carbide container, a gas container, and a water container. To start the generation of the gas the water container is first filled, next the carbide chamber is charged, and then a stopcock is turned "on." The generator will then supply gas just as required, the operation being performed automatically, and generation ceasing when the stopcock is turned "off." The danger connected with the use of generators appears to lie in the brass or copper fittings employed, acetylene forming explosive compounds with copper, brass, and other metals and alloys. This danger apparently results from the corrosion of the metals, clean brass not being so readily attacked. It is also admitted that when the carbide is placed in its container, before the evolution of gas has begun, the upper part of the generator is filled with air, and as the gas increases in volume, forcing the air out, at some period the generator is filled with an explosive mixture. There has also been expressed the fear that, in the hands of careless workers, an explosion may be caused by light travelling back from the burner along the supply-tube.

As far as transportation and storage of acetylene gas or calcium carbide are concerned, the railroad companies of Europe have declined to accept either of them when "hermetically sealed, packed in strong wooden cases, or in air-tight or damp-proof iron drums," and many insurance companies decline to insure, except at prohibitive rates, premises where acetylene is stored or used.

Finally, acetylene is admitted to be explosive when one part of the gas is mixed with thirty parts of air, and its poisonous nature is such that eminent chemists have given the strength of a fatal mixture of acetylene and air at 25 per cent. acetylene. Notwithstanding these things and the numerous accidents which have occurred, those who are using acetylene in portraiture and lantern work continue to assert that, in practice, the gas is altogether "a good thing," and entirely harmless. We leave our readers to draw their own conclusions.

THE EXPERT PHOTOGRAPHER.[1]

BY HARRY F. HOSTETLER.

If activity and energy have any share in commanding respect, the American photographer ought to have it within his grasp, for he is ever alert and assiduous in all that concerns the advancement of his profession, either from a commercial point of view or from the aspect of art and technique. In other words, he is not only prompt and business-like in his commercial transactions, but also considers it a part of his work to study several branches of science and the writings of artists, as well as their pictures, so he may add to his own knowledge of these subjects the experience and advice of others.

The ordinary procedure of having one's photograph taken has been compared, with the exercise of some exaggeration, to a visit to the dentist's.

A sitting with the expert photographer of to-day, with his modern appliances, is quite a pleasant affair, and in order to obtain the best results the subject and operator must be on a social basis for the time being; as, for instance, when President Cleveland walked into Sarony's, and, grasping, the veteran by the hand, said: "Napoleon I have come to visit with you while you make my picture;" and the public knows the result. There are many operators that would accomplish much

[1] Written for *Mosaics*, 1897, but received too late.

more satisfactory results, if they were not so nervous; like a current of electricity it affects the subject at once. Talk of something pleasant, as it is pleasing pictures that catch, because they are always natural and easy.

There are a great many operators who have their work spoiled by too much retouching. Retouch simply to overcome or correct the defective rendering of color-values by photography. As I look at you I am unconscious of any blemishes, but the sensitive plate, unfortunately, does not see you in the same light. My great aim is to secure solidity of form, solidity of flesh in my photography. Many photographers fail in this and produce wooden and woolly results, because they kill the life-like appearance and completely destroy anatomical structure by over-retouching.

PRINTING ON "VELOX" PAPER.

(Continued from page 569, Vol. XXXIII.)

In the last paper we carried information as to the use of "Velox" paper to the "fixing" of the prints, and then promised to record further notes of experience here.

First, a few words further as to the iron-oxalate developer.

The circular of instruction issued by the Nepera Chemical Company, the manufacturers of "Velox" paper, may be had free on application. It agrees practically with what we published last month. The instructions now concern the preparation of the iron oxalate developer, although we continue to use amidol, as by formula given in our last number.

Iron Oxalate.

Solution No. 1.

Neutral Oxalate of Potash	16 ounces.
Hot Water	48 "

Solution No. 2.

Proto-sulphate of Iron	8 ounces.
Hot Water	24 "
Citric Acid	15 grains.

Let both solutions cool, and keep in separate bottles well corked. Immediately before use measure off four ounces of Solution No. 1, and pour 1 ounce of Solution No. 2 into it while stirring; the solutions and mixed developer must be clear. Add bromide as directed for amidol. (We strongly recommend the amidol developer, and only give the iron oxalate formula because the ingredients are more readily obtained in some places.—N. C. Co.) If you use iron developer, you must wash the prints in water acidulated with acetic acid before putting them in hypo.

When developed far enough throw the prints into the fixing bath.

The formula we employ is as follows:

Hypo-acid Fixing Bath.

Dissolve

Hypo	12 ounces.
Sulphite of Soda, crystals	4 "
Water	30 "
Acetic Acid	3 "

then add the following solution:

Water	10 ounces.
Alum	2 "

Keep this solution acid. If necessary, add occasionally a few drops of acetic acid.

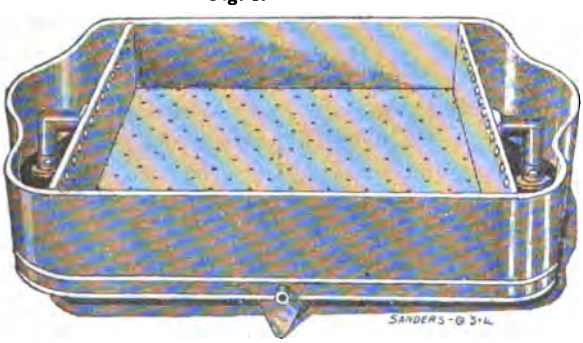
Fix five or ten minutes, then wash twenty minutes to one hour in running water.

It does no harm to wash longer. When washing many prints, be very particular about transferring them from one washing tank into another. Each washing tank should have a hose sprinkler over it, so as to have plenty of water, but divided in a number of small streams so as not to break prints by the heavy fall of the water. Dry the prints by putting them face down on "Royal" blotters. The hypo-alum bath prevents them from sticking on these. We do not think that where one prints quantities that this is the easiest way of drying

them. It would be preferable then to use cheese-cloth stretchers superposed by one or two feet of space between them, so as to allow the circulation of the air. When washing "Velox" prints guard against them "caking" together in the washing tank; when they do, the hypo has no chance of being washed out in the centre of such prints; then, of course, they are bound to fade. It is also wrong when making a lot of "Velox" prints to pile them up before they are thoroughly dry, otherwise mould or mildew sets in between the prints and produces discolorations. This trouble has been known to occur when a few thousand prints were all ready and when the printer had not given himself the trouble to dry them thoroughly.

Hypo remaining in the prints may be detected by tasting or "licking" the prints with the tongue. When the hypo-bath is not up to the standard in strength, and it becomes "loaded" with silver there is also danger. Dr. Leo Baekeland, chemist of the Nepera Chemical Co., published a useful article on the subject of "Retained Silver" in our MAGAZINE last year, page 182. This should be consulted by all "Velox" printers.

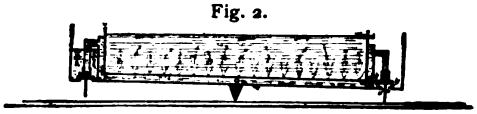
Fig. 1.



As we stated last month, we are employing Leigh's *California Automatic Print-washer*, manufactured by Mr. H. A. Hyatt, St. Louis, and find it to answer every purpose admirably. We hope larger sizes than the 25 x 25 inches will soon be supplied. Its construction is easy to understand by reference to the cut.

To understand the principle on which the automatic washer is constructed glance at Fig. 2.

Fig. 2.



A rubber hose is attached to the tap and the inlet pipe of the washer, and the water turned on. The water first fills the space between the bottom of the washer and the perforated bottom of the tank, and fills the tank by rising through the perforations in the bottom. The water then rises in the pipes in the pocket at the right and the left of the tank. The weight of the tank resting on one of the valves closes the outlet of the side pipe in the pocket on the lower side, consequently opening the outlet of the pocket and carrying off the overflow of the tank. On the opposite side of the tank the valve closes the outlet of the pocket by its own weight, and the water from the side pipe fills the pocket until the water in the pocket becomes of sufficient weight to throw that end of the tank down, opening the valve on that side, closing the other and repeating the operation. The water in the tank takes an upward and circular motion from being forced through the small holes, and the rocking of the tank gives the entire body of water exactly the same motion that separates the prints in the ordinary tray by rocking. With this apparatus prints never settle to the bottom of the tank, but float in the water and move gently from side to side. The face of each print is in this way presented to the moving water, and imperfect washing is practically an impossibility, unless the prints are so crowded as to "cake."

Prints require no washing nor handling

with this washer, thus saving its cost in labor alone.

While at his work, close at hand, the printer learns to take as much comfort in the slight thud which the washer makes when it loses its balance and tips over, changing the prints from an uneasy floating to a billowy plunge in the water, as an engineer does in the sounds which come from his engine and tell him that all goes well.

Mr. Frank Davies has become our trained assistant in "Velox" printing, and his handiwork is shown in the matt-surface prints which grace our New Year number. We hope for some notes from him soon.

COPYRIGHT.

In our last number and in *Photographic Mosaics*, 1897, Mr. B. J. Falk's "suggestion" that the entire photographic fraternity give heed to the important matter of securing the copyright of their productions has caused considerable stir. We hope the stir will continue until what Mr. Falk urges is an accomplished fact—namely, until a strong Copyright League is organized and maintained, as in some of the older countries. There is "no dollar in this," *but for you*, individually, friends. Some of your co-workers will address you on the subject presently; meanwhile prepare to co-operate with them. How such matters are working in England may be gathered from reading the slip below from *Photography*, as follows:

"Since Mr. Gambier Bolton's return from Africa he has been compelled to instruct the solicitors to the Photographic Copyright Union to proceed against the Religious Tract Society for an infringement of his copyright photograph of monkeys (No. 538), in a drawing made by Mr. Fred Miller for *The Boy's Own Paper*, and against Messrs. C. F. Faulkner & Co. for an infringement of his copyright photograph of lions (No. 112), in a drawing made for them by Miss Alice West for use on a box of toys. Both cases have been settled out of court on payment by the defendants of heavy compensation and all costs, and it is to be hoped that artists are at last beginning to realize that they cannot use copyright photographs in this way with impunity. We understand that Major Nott is also commencing proceedings against the Religious Tract Society for the infringement of two of his copyright photographs of apes, drawn by Mr. Fred Miller in the same number of *The Boy's Own Paper*." Every photographer should protect his work.

PRACTICAL FORMULÆ.

Pyro and Metol or Quinol and Metol Developers with Sodium Tribasic Phosphate.

Pyro-metol developer—

A.

Pyro	60 grains.
Metol	40 "
Potassium Metabisulphite	100 "
Potassium Bromide	10 "
Water to	20 ounces.

Dissolve the metol first, using heat if necessary; but if heat be used, allow the solution to cool before adding the metabisulphite. Next dissolve the metabisulphite and bromide and pour the solution over the pyro. Make up the bulk to 20 ounces.

B.

Sodium Tribasic Phosphate	2 ounces.
Water to	20 "

The above formula may be altered by substituting 60 grains of quinol for the pyro, but it should be dissolved in an ounce of

alcohol and added to the balance of the solution, a little at a time, with energetic shaking.

A Good Lantern-slide Developer. H. J. L. Masse, in the *Amateur Photographer*, recommends the subjoined formula as adapted to all the lantern-slide plates now on the market:

Dissolve 2 ounces of sodium sulphite in 15 ounces of water; then dissolve 30 grains of hydroquinone in 1 ounce of alcohol, and add the solution gradually (with shaking) to the solution of sodium sulphite. Then add, in any order—

Potassium Carbonate . .	2 ounces.
Sodium Carbonate . . .	4 "
Potassium Bromide . . .	40 grains.

Finally make up the bulk to 20 ounces with water. To each ounce of this developer add 2 to 4 drachms of water.

Tribasic Phosphate of Sodium. As this salt, now so widely recommended as an accelerator in development, is not yet obtainable in this country, we give, from *La Photographie*, a method for its preparation:

To 179 parts of commercial phosphate of soda, in crystals, add 20 parts of caustic soda, as dry as possible. As the soda is always more hydrated than its formula indicates, a little more can be used without inconvenience. Even a slight excess of the soda is of no moment for photographic purposes. A solution of salts in a given quantity of water will contain 181 parts of the tribasic phosphate of soda. An article on the subject will appear in a later issue of the MAGAZINE.

Retouching. The *British Journal of Photography* extracts the following note from *Liesegang's 1897 Almanac* concerning a new method of retouching on an unvarnished film. It is the method of Paul von Janko, who recommends, instead of varnishing the negative, the use of the varnish with the pencil. A drop of varnish is spread very thinly upon a glass plate, and this is touched from time to time with the point of the pencil. As soon as the pencil fails in its work, it is again applied to the spot of varnish, and the latter is renewed as often as it becomes hard. Retouching in line or point can be done and the varnish is not visible on the negative.

Metol for Bromide Paper. Mr. C. W. Judd, of San Diego, Cal., writes: "There is surely an error in the formula given in your September MAGAZINE under the above title, on page 400. If the amount of water be increased to 400 or 600 the formula would be improved, or the amount of metol might be correspondingly reduced to 40 grains and the quantity of water left untouched. Then if you add just sufficient tincture of iodine to the bromide solution to slightly color it, you will have one of the best developers for bromide paper I have ever used.

"It develops quickly with fine contrasts and exquisite color. There is no troublesome washing with acid solution to get rid of the developer, but the print may be simply washed with water. The developer may be used repeatedly, as it will develop a large number of prints without needing the addition of fresh solution. I have used it for developing many bromide prints and said 'good-by' to iron oxalate long ago. The prints I send bear out my statement."

[Mr. Judd's prints are certainly good, rich in color, and showing a fine range of values from white to black. The tone is a velvety black and is very effective.—ED. W. P. M.]

A Convenient Reducer. A dilute solution of sesquichloride of iron (pale straw color) forms an excellent reducer for over-intense negatives. It reduces gradually and evenly. After use, wash the plate.

THE ARRANGEMENT OF THE ARMS AND THE HANDS.

F. G. Schumacher. Los Angeles, Cal.

THE QUEEN OF THE FIESTA.

MY DEAR JACK: You say that the criticism upon Mr. Sperry's pictures did you "more good than anything for a long time;" that "it's funny," but you "never saw that teapot handle and spout before," and "that now you never think of one or the other without wanting to take a drink." All of this proves that you think about what you read and see.

Then you say, "Tell us how to arrange the arms and hands in every-day work. Go down to the ends of the fingers and let us see them. Give us rules, laws, anything, so we don't feel, as our pictures so often indicate, that hands and arms were made to be put out of sight in our pictures."

It is true, as you say, that enough attention is not given by photographers generally to the natural and beautiful arrangement of the arms and hands. God made these members of the human body not only for use, but likewise for beauty. I say that they assist the artist very much—incalculably in composing. All recognize this fact. It has been a sorrow to the whole profession of artists always that about the most magnificent statue in the world has no arms. How infinitely more wonderful would the Venus de Milo be if she had arms. Not because we could then tell whether she was offering a laurel wreath to a victorious warrior or propelling a bicycle, but because she would appear more beautiful and create greater delight for the lovers of art.

You ask for "rules and laws," Jack, bearing upon the arrangement of arms

and hands. There would not be space for a tithe here, but I will give you a hint.

I think it is Burke, in commenting upon beautiful forms, who says, "As perfectly beautiful bodies are not composed of angular parts, so those parts never continue long in the same right line; they vary their direction every moment, and they change under the eye, by a deviation continually carrying on, but for whose beginning or end you will find it difficult to ascertain or paint." While you read this do you not think Burke had the arm and hand in his mind? Now, granting that the hand and arm are "beautiful bodies," what one of taste would be guilty of neglecting to make the best of them when they are introduced in a picture? The aperture of the eye being circular, the objects which enter it containing a similar continuity of form fall most agreeably upon it and are observed with the greatest ease. Prove this by examining a cube and a globe, or a nicely arranged arm and a "teapot handle" together. There are other reasons probably why circular or undulating forms fall most agreeably upon the eye; why the reverse are said to "hurt the eye." I will try to point some of them out for you presently.

I rejoice that you spring this subject upon me just now, for I have some very lovely examples of arm and hand arrangement to place before you. Last summer, at the Celoron exhibition, I was compelled over and over again to halt before a small number of pictures hanging there which made up a real vision of beauty. I saw many other attendants wrought upon in the same manner. The pictures were peculiarly excellent in lighting, posing, and technique, but there was something else about them which attracted me the most. It was the lovely undulating lines of beauty formed by the hands and arms of the subjects, the result of the careful working of the hands and arms (and more, the *mind*) of the photographer who made them. Among these were several of the "Queen of the Fiesta." They were all from the studio of

F. G. Schumacher.
THE QUEEN.

Los Angeles, Cal.
A MAID OF HONOR.

Mr. F. G. Schumacher, Los Angeles, Cal. He was present. I quickly made sure that my readers who could not go to Celoron should see at least a part of his wonderful exhibit, and made request of Mr. Schumacher for the use of one of the negatives. It was granted, and a full figure of "The Queen" has been printed for the "Velox" frontispiece this month as the result.

Soon after my return to New York I received a letter from one of the charmed admirers whom I saw at Celoron, which I will add:

F. G. Schumacher. Los Angeles, Cal.

A VASSAL OF THE QUEEN.

POSING THE HANDS.

FRIEND WILSON: In all your excellent criticisms of the exhibits at Celoron I have not seen any mention of Mr. Schumacher's

exhibit from Los Angeles, Cal. He had at least half a dozen large pictures of ladies, in which the hands were posed with much variety, but in every case with exquisite grace and ease, yet all apparently unstudied and natural.

Now any photographer, from the lowest to the highest, knows that no six pairs of hands were ever posed to give such effects without consummate mastery in the art. There are ten photographers in the highest ranks who can pose a head well, where there is one who would excel in posing hands.

F. G. Schumacher. Los Angeles, Cal.

A LADY OF THE PACIFIC.

Mr. Schumacher's pictures were well posed and well treated throughout, equal with any of them; but he surely excelled in posing the hands; yet I do not see his name among the medalists, nor any special mention of his work, though, to my mind, he as well deserved commendation and awards as some who got them profusely.

There is so much interested praise and blame going about, it may be well to mention that I do not know Mr. Schumacher even by sight, and my opinion is purely disinterested, simply giving honor where honor is due. I called the attention of several to the exhibit, and they all agreed with me as to the beauty of the pictures,

F. G. Schumacher. Los Angeles, Cal

A MAID OF THE OCCIDENT.

and especially to the evidence of artistic taste in posing the hands.

My opinion has no great value, but, with your permission, I would like to put it on record once more in your pages, a request which you will doubtless grant for "Auld Lang Syne."

Yours fraternally,

E. K. HOUGH.

FREDONIA, N. Y.

Mr. Hough is a trained artist. You will see that he shared and appreciated the advantage of seeing Mr. Schumacher's pictures, and wished that others might have an equal privilege. To this end more of them have been half-toned and are presented herewith. Each one provides an excellent lesson in the particular line you mention and will give you something to aim up to all the new year.

Study pictures more (such as the group "Theology," the group "Theodorus," and individual portraits in your *Burnet's Essays*) and see what care was given to hands and arms by the old masters. All will assist you in overcoming difficulties. This subject presents matter for infinite study, and I am sure I will do better to advise you to study the pictures I place before you than to write more for you to read. So I may as well let go your hand now.

I ought to say that Mr. Schumacher's pictures were not entered for competition at Celoron. He has taken many prizes.

Very truly yours,

EDWARD L. WILSON.

F. G. Schumacher. Los Angeles, Cal.

ROSES AND HELIOTROPE.

OUR PICTURES.

THOSE who are familiar with the "Mardi Gras" at New Orleans, the "Veiled Prophet" at St. Louis, and the "Carnivals" of the European cities can well understand what "La Fiesta" is in Los Angeles. The season opened last year, after many months of preparation, on the afternoon of April 22d. The rainy months

had come and gone; the oranges and lemons, with the other crops, had been harvested; millions of roses were in bloom, and all nature was at its best. Many thousands of people flocked from all quarters of the city, and for four or five days everyone and everything was given up to merriment. Flowers, and the red, orange, and olive colors of the city were displayed in every accessible place in infinite quantity. Everything and everybody were bedecked with these. The opening event was a grand procession in honor of the "Queen." For weeks before she and her maids of honor were busied preparing their costumes; many dry-plates of large size were devoted to recording the construction of these for history (and for suggestions to the costume-maker), by that patient and talented artist, Mr. F. G. Schumacher. After the costumes were complete and the negatives had all been made, the "Fiesta" went on, and not until then. "The Queen," writes Mr. Schumacher, "was Mrs. Mark B. Lewis. She is considered a very beautiful woman." Said the *Capital* newspaper:

F. G. Schumacher. Los Angeles, Cal.

AFTER THE FIESTA.

"The exalted position of the Queen of La Fiesta de Los Angeles having been tendered to Mrs. Mark B. Lewis, and she having graciously consented to act, the *Capital* takes pleasure in to-day presenting

a picture of the lady.[1] Of all the lovely women who grace this fair city of ours there is none so lovely as Mrs. Lewis. Her selection as Queen is so eminently fitting and the honor so properly bestowed that all bow allegiance to her and bend the knee in homage to her grace and beauty. Not only is Mrs. Lewis the recognized beauty of Southern California, but a life-size painting of her exhibited at Atlanta last summer attracted more attention and elicited more admiration than the whole of the Art Department combined. Those who will be in attendance upon the Queen as members of her official family are: Mrs. Arthur Braly, the Misses Helen Klokke, Cora Goodrich, Alma Robinson, Hattie Kimball, Ida Menifee, Harriet Smith, Ysadora Scott, Sarah Innes, Lila Fairchild, Lillian Wellborn, Olga Marix, Bessie Bonsall, Hortense Levy, and Bessie Bryan. These are all very beautiful young ladies and will be fitting attendants to the Queen."

Several of the portraits of these "Maids of Honor" are included in the set of 48 "Studies" from Mr. Schumacher's studio, now offered by the publisher of this MAGAZINE to photographers. The negative of "The Queen" in her full reception costume has, by the generosity of Mr. Schumacher, been employed to print the "Velox" picture which embellishes our New Year number. It is a magnificent production in every way and has won Mr. Schumacher much fame. It is 8 x 10 in size. Several other portraits of her majesty, from 18 x 22 negatives, appear in an article on page 17. This one may well come into the spirit of that article. The one used as our frontispiece and those of the "Maids of Honor" all appeared engraved in a recent issue of *The Illustrated American.* Of course they do not appear to so great an advantage there as they do here. The "Velox" paper we have used was kindly made especially to suit Mr. Schumacher's negative, by the Nepera Chemical Co. Effort has been made to print the best results possible from it.

All over the country Mr. Schumacher has had well-deserved praise for his splendid "Fiesta" photographs. He surely ranks at the head in his profession. In the picture, which appears herewith, our friend is represented in his studio resting "after the Fiesta photographs were made." It is a very characteristic study of him and presents a good view of his work-room. It was taken by an amateur friend. We are happy in having such a charming picture with which to start our new volume. We trust it may augur much good for us all during 1897. We shall endeavor to follow with an "Eleven" which shall quite reach up to the standard it has elevated for us, and cause many to strike high. "Viva la Queen!"

All through our number we present other pictorial attractions which must prove helpful. A splendid portrait in natural colors may be expected soon of a queen of the stage.

Intensification. A recent trial of the new platinum intensifier for gelatine negatives introduced by Willis & Clements confirms the general opinion formed by all who use it that it closely approaches perfection. A new mercuric chloride intensifier is thus given in the *British Journal of Photography:*

Dissolve 20 grains of potassium sulphite in 20 ounces of water, and add 35 grains of mercuric chloride. After immersion in this solution (how long the report does not not say) the negative is washed and redeveloped. The results are said to be brilliant and intense. Another intensifier, with which we have had personal experience and can recommend, is given by Mr. Gustine L. Hurd, at page 195 of *Mosaics*, 1897.

[1] By Mr. F. G. Schumacher.

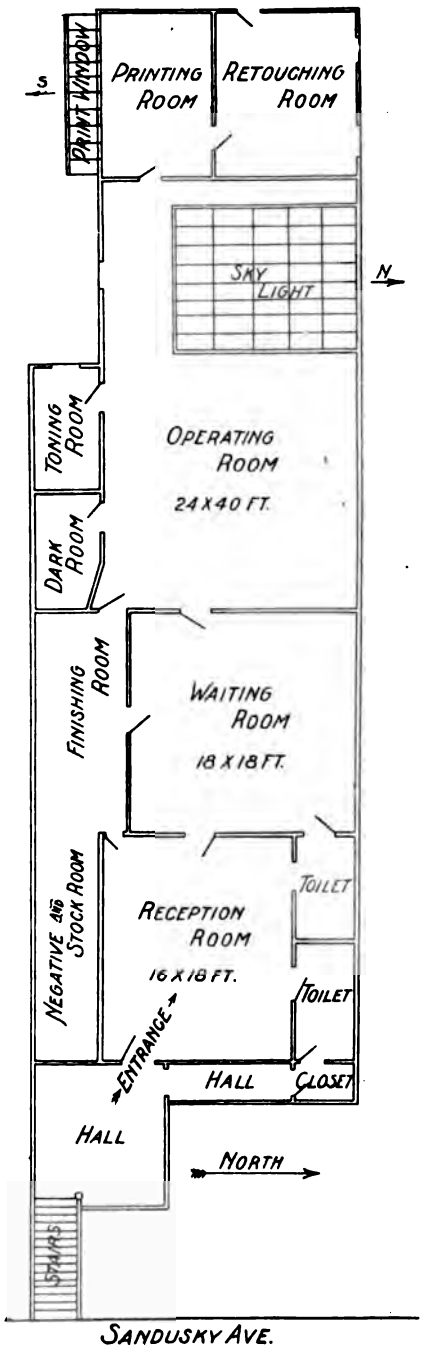
THE STUDIO AND WORK OF DOZER & McCLAIN, BUCYRUS, OHIO.

Dozer & McClain. Bucyrus, Ohio.

AN OLD SETTLER.

FOLLOWING on with our scheme of teaching those who need it or wish it by example as well as by precept, we have pleasure in recording some notes concerning the studio and work of two of "the present generation" of photographers, who stood high among the prize-takers at the national exhibition at Celoron. We refer to Messrs. Dozer & McClain, Bucyrus, Ohio, whose portraits are also presented.

These gentlemen have what we consider a model establishment in many respects. At our request they have provided us with a ground-plan of it, with the dimensions of the various rooms noted. This we have had photographed and present herewith. Below will be found an engraving of a part of the reception-room, and another one of the operating-room, which prove that the whole establishment is carefully and tastefully planned and arranged. That good work is made here is proven by the examples chosen from the various specimens sent us.



THE DOZER & MCCLAIN ESTABLISHMENT.

We wish we had space for the entire collection; it would provide a fine one for the lover of the beautiful.

With reference to all, we add that this studio is located in Sandusky Avenue, the leading business street of Bucyrus, and in the "Walther Block." (It is a good plan always for the photographer to be in the best business quarter.) Please refer now to the other engravings and the ground-plan for a clearer understanding of what follows:

The view of the reception-room is one looking through into the hall or entrance, and showing a portion of the Celoron exhibit as arranged since the convention.

The three genre prize photographs hang highest, and those of Class B are below.

Beyond is the waiting-room, looking through into the reception-room and ladies' toilet. The situation and convenience of these rooms can be easily located and understood by referring to the diagram.

Instruments are here of various sizes up to 14 x 17 for contact portrait work. There are 5 x 7 to 14 x 17 view instruments; also a copying camera, etc. Backgrounds and accessories abound.

Seldom is a much more complete studio than this found in towns of the size of Bucyrus.

L. A. DOZER.

E. L. MC CLAIN.

Regarding these gentlemen, we learn that Mr. Dozer has been a photographer for seven years. He commenced his study of art under Mr. Gribble, of Fostoria, Ohio, in 1889. Since that time he has been connected with different galleries in the State of Ohio. He located in Bucyrus in 1893.

Mr. Dozer is a thorough photographer and a practical business man. He is very popular in the trade. His specialty is operating and retouching.

Mr. McClain began the study of photography at the age of fourteen years, in 1882, at Greensburg, Indiana, under one

Dozer & McClain. Bucyrus, Ohio.

RECEPTION ROOM.

(Portion of their Celoron exhibit on the right wall.)

Dozer & McClain. Bucyrus, Ohio.

OPERATING ROOM.

Dozer & McClain. Bucyrus, Ohio.

THE PAST. THE FUTURE.

of our old subscribers, Louis Moberly. He has followed the camera ever since with the exception of a few weeks in 1888. He has been connected with some of the best photographers in Indiana and Ohio. He came to Bucyrus in September, 1894, and after Mr. Brenner's removal to Cincinnati he united with Mr. Dozer, and they opened their new studio in the Brenner stand December 10, 1894. They are progressive as well as practical, and do not let an opportunity pass for gathering in helpful new things.

They make an extra effort to cause their customers to feel at home and to please them with their work.

A VERTICAL CAMERA STAND.

By the courtesy of Mr. W. M. Keeler, the official photographer at the Government Hospital for the Insane, Washington, D. C., we present herewith an engraving of a new vertical camera stand of which he is the inventor. This stand was designed by Mr. Keeler for use in pathological photography, for which purpose it possesses obvious advantages. It may also be profitably utilized in other special branches of work, to which we will refer.

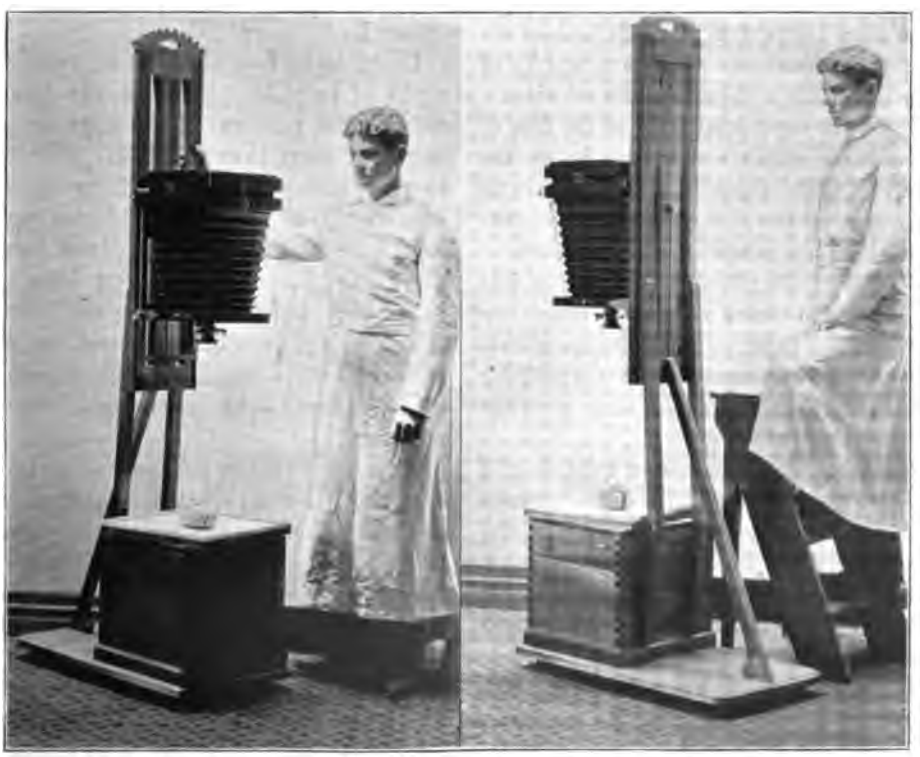
As its ingenious inventor writes: "The Keeler stand does not require a lengthy description, the accompanying illustrations from front and back views showing just how it is constructed and operated. The platform and box at base are made purposely strong and heavy to balance the camera and its attachments, and the box is used as a receptacle for the camera when not in use. The camera is raised and lowered by a thumb-screw at-

tached to its base, which reaches through the slit running the whole length of the centre upright of the stand. The upright support is made of the same width as the camera, with slightly projecting edges to keep the camera in position. The design is simple, devoid of loose parts, and such that a carpenter or any one handy with tools could manufacture at slight cost or trouble."

Apart from pathological uses, such a stand will be found advantageous for copying documents or books which can be handled better on a table than on a board placed upright. For the specialist who has to deal with collections of cut flowers, sea-weeds, anatomical or museum specimens, all of which are best illuminated on a horizontal surface, Mr. Keeler's invention will be found of service.

With very little contrivance the process artist or crayon portraitist may turn the vertical stand to immense advantage. A hint is sufficient to show that fixed on a stand this camera can be made to throw an enlarged picture (from a transparency or lantern-slide) upon the table-like base, on which the artist may secure his enlarged sketch more quickly and with more fidelity to the original than by free-hand drawing.

It has been suggested that a vertical stand may be profitably utilized in the studio for securing pictures of very young children. The chief difficulty, as we all know by experience, is to get the little subject supported so as to face the camera without appearing as "bunched up" in a mass of drapery. It is an uncomfortable, unnatural position for a baby, and success is difficult of accomplishment. In the gal-



KEELER'S VERTICAL CAMERA STAND.

lery equipped with a Keeler vertical stand, however, the difficulty vanishes, for the youngster is photographed as he or she lies playfully kicking or frolicking on the floor or chair, happy and naturally comfortable.

THE PHYSICAL ACTION OF INTENSIFICATION.[1]

BY R. ED. LIESEGANG.

G. S. North. South Norwalk, Conn.

EVOLUTION OF A PICTURE. SCENE: NORTH'S STUDIO.

For the intensification of gelatine negatives there are several methods besides the purely chemical one which are worthy of attention from a physical point of view.

Upon the superficial layer of the film of bromide of silver which constitutes the gelatine plate there is always a greater reduction of the silver than on that portion which lies next to the glass surface.

And this difference is due to the fact that the light which effects the change or reduction in penetrating the opaque film is diminished in intensity, and the developer consequently cannot act as long upon the deeper lying portions.

If such a plate is placed in a solution of bichloride of mercury (the usual intensifier), the upper stratum of silver particles is converted first into the double combination of chloride of silver and mercury. It is only after a time that the mercuric salt penetrates to the glass.

Different results are obtained, with reference to the character of the image, according as one subjects the negative only a short time to the influence of the mercury or long enough to completely bleach it.

In the latter case all parts are rendered equal in intensity, whilst in the former the brighter portions of the negative are increased more than the dark. That the varying action here depends upon the penetrating of the film, and not upon some other method of attack of the denser silver deposit, is very manifest from the experiment which may be made by intensifying a plate which has been exposed from the back—that is, through the glass, as is sometimes done in making a reversed negative.

Here we find the darkest parts bleach out first, simply because the silver deposit extends quite to the glass surface. The bleaching of the half-shadows takes place only when the mercuric chloride has completely penetrated the gelatine. From this it follows that over-exposed plates and under-exposed plates demand different treatment. The latter, which exhibit too strong high-lights in comparison with the shadows, ought therefore to remain only a short time in the

[1] Written for *Mosaics*, 1897, but received too late.

mercury—that is, the bleaching should not be allowed to continue to completion.

The intensifier lessens here the contrast. In an analogous manner the reducers of gelatine plates act upon the film—that is, by attacking first of all the superficies—thus diminishing the layer deposited on the deepest shadows and the half-tones. The high-lights are, therefore, when the reducer is allowed only a brief action, less reduced, so that one may present an apparent paradox, *i. e.*, that a reducer is the best intensifier for over-exposed images.

If need be such plates may be followed by the mercury for intensification in the ordinary sense—that is, the over-exposed plate is first subjected to the action of the reducer, which indicates the character, which the subsequent intensification emphasizes.

If bromide of copper and nitrate of silver are employed as the intensifier, much depends upon the length of time the negative is washed after the bleaching operation.

There are present two salts of copper in the film, of which one (the unreduced bromide of copper) is easily dissolved, whilst the other, produced by the action upon the silver (the sub-bromide of copper), is more difficult of solution. The latter is essential to the reduction of the silver salt. Now, if we wash too long, there is no bleaching produced when the nitrate of silver is flowed over the plate, because there is not sufficient quantity to act in reduction. But when the washing is not carried too far, a certain percentage of the sub-bromide of silver remains in the deeper lying portions of the film and they are in consequence blackened.

The effect therefore of under-exposure can be produced in a normally exposed plate. This process with long washing is consequently specially adapted to the treatment of over-exposed plates, the washing acting in the capacity of a reducer.

If the washing is not carried far enough, besides the sub-bromide of copper, there is also a percentage of the unreduced bromide, which combines with the silver nitrate to the formation of bromide of silver.

In the employment of a weaker silver bath there arises upon the surface of the plate a thin veil which prevents further action of the nitrate of silver in a manner analogous to the veil of metallic silver which is formed on over-exposed plates (solarization). (Compare WILSON'S PHOTOGRAPHIC MAGAZINE, 1896, p. 299.)

The blacking of the negative is prevented when a new silver bath is employed. It is only when a stronger silver solution is used that the blacking begins. If the silver is allowed to act uniformly there is naturally formed within the entire film bromide of silver. This, it is true, can be removed by submitting the plate to the hypo-bath again, but then the plate must be thoroughly washed, because the copper salt in connection with the hyposulphite of soda produces a very vigorous reducer, and the image may be completely obliterated.

A similar formation of a protecting film of deposit arises in the employment of the bichloride of mercury intensifier, when, after the bleaching of the film, the negative is not sufficiently washed to remove the surplus bichloride. The portion remaining forms with the ammonia, which is employed subsequently to blacken the film, an insoluble amount of mercury. This lies likewise upon the surface if the ammonia is very dilute, but the diluted ammonia is to be preferred to a concentrated solution. The amount on the surface is easily removed by rubbing the film with the fingers.

On the other hand, if the white turbidity takes place within the film, it cannot be removed.

I have no doubt that similar diffusion phenomena may account for the fact that the lead intensifiers are so difficult of application with gelatine plates.

Perhaps an exhaustive study of their action might lead to a solution of this and similar problems.

DUSSELDORF.

A NEW HAND-CAMERA.

POPULAR taste to-day, abroad as well as at home, runs in the direction of what may be termed memorandum cameras, that is, instruments of compact form which will give a small picture, useful either as a souvenir or as a study for more ambitious effort. The majority of the hand-cameras placed upon the market in 1896 were of this class. Some of them are admittedly simply toy instruments and of little practical use; others are constructed on better lines and can be made to produce pictures worthy of the name.

The engraving accompanying this notice represents what is claimed to be the smallest existing camera for pictures measuring 3½ x 3½ inches. It measures 7 x 4½ x 5¼ inches, is called the "Pet," and is the latest novelty introduced by Mr. G. Gennert, of this city.

The chief features of the "Pet" are its extreme portability, the neatness of its appearance, simplicity of manipulation, and reliability of construction. That it is put on the market at a low price ($5) goes without saying. The instrument carries three ordinary plate-holders, each holder carrying two plates; it is fitted with a good single lens; instantaneous and time shutter; and a finder. No complicated adjustments are required in its operation, and it may be used in the hand or on a tripod as desired. All objects located more than fifteen feet from the lens are in focus, the definition of the image being clear and distinct. For its price and usefulness we are of the opinion that it is one of the best $5 cameras on the market.

Eikonogen. In using eikonogen solutions Dr. J. J. Higgins says:

Avoid ammonia and its salts, also all acids; either is positively harmful.

Keep the developer in separate solutions; the one of simple eikonogen and sulphite of soda in one bottle, the other of carbonate of potash, etc., in another, and mix in the desired proportions at time of use.

Do not use in, or add to, the eikonogen solution either carbonate or sulphite of potash.

Collotypes Vitrified on Earthen-ware. At a recent society meeting in London Mr. H. Snowden Ward exhibited some examples of collotype printing vitrified on earthenware tiles by a method devised by Mr. Grundy, who has applied the principle of multiple impression to collotypic work on earthenware. The collotype plate is inked with a fatty ink containing an under-glaze pottery color, and repeated impressions are made upon the tile to be decorated, suitable precautions being used to secure perfect registration. The tile is then fired and glazed in the usual way.

GLYCIN AND METOL FOR BROMIDE PAPER.

BY JOHN BARTLETT.

UNDOUBTEDLY beautiful results are obtained upon bromide paper with ferrous oxalate developer. We have the rich, velvety black, the soft high-lights, and the wealth of gradations so desired in this species of print; but with the knowledge we have of the effectual working of the recently discovered developers it would savor somewhat of conservatism to still recommend the iron developer as the *sine qua non.*

There are certain contingencies which may mar the results: the manipulation requiring so much care to prevent staining of the surface and the fear that the iron salt has not been completely eliminated from the fibres of the paper, but may persist there, and so lay the foundation for the future woe of the print. So photographers, while acknowledging its merits, have often wished for some other agent equally effective in making beautiful work, but with immunity from its concomitant evils. When, therefore, the new developers made their advent they were at once mustered into this special service.

Sometimes we have to let up the brakes in photographic manipulations to spring open the valve, in order to utilize to the utmost the full force of the giant, whatever his name—pyro, metol, hydrochinone—to bring out the last traces of the reluctant image which will not be materialized; but I think it will be generally conceded that very energetic development is inapplicable to bromide printing, for it generally produces harsh, unpleasant images.

So even the busy professional or the all-too-impatient amateur may find that *festina lente* is not the worse dictum to follow when working with bromide prints. Hasten slowly, therefore. In fact, this faculty of slow action is one of the virtues which should recommend glycin. About it I am going to give my experience. You may modify the formula given, but I have found the proportions to be best adapted, and, therefore, any change had better be only in a slight degree.

Glycin works as well with bromide paper as it does with plates, giving clear, brilliant images, with suitable density and soft modulations, and working, too, without the slightest tendency to fog. But alone, despite its energy, it moves too slowly even to suit the lazy pacing-gait of the disciples of the slow-coach school.

Fifteen or twenty minutes do seem a prodigal expenditure of time when the same results, not one jot or tittle less in beauty or brilliancy, can be achieved in two or three minutes, and that, too, without the risk of encountering fog.

In my first experiments with metol alone as a developer for bromide paper I constantly met the ominous presence of the obscurer of the fair image, and as constantly attributed its hateful form to metol. I thought that it was too vigorous a reducing agent, and so diminished the quantity in the developer; but I very soon found that the cause was to be traced, not to an inherent perversity of the metol, but rather to the strong alkalies which were associated with it. I found that the formulæ given, in order, I suppose, to stimulate to the utmost the energy, were surcharged with an amount of alkali —in some cases even caustic alkali—far beyond what was needful as an effectual accessory.

Rapid work, perhaps the most rapid work, can be done with metol, and it can be pushed very far with increase of stimu-

lants, but there is great liability to fog. I think that rapidity of such a degree that it prevents one having any control over the evolution of the latent image is undesirable, and especially so with bromide work. One likes to see the image come up rather slowly, to watch the gradations as they build up, and the deepening of the shadows, so as to check exactly at the right point and avoid too great density and hardness, for after-treatment of the image, either for reduction or intensification, is out of the question, and is never resorted to by good workmen but in extreme cases.

I therefore hailed glycin as a special gift for bromides, and fairly rejoiced on account of its slowness of action.

I shall not detain you with any further talk on the subject of bromide development, but simply recommend my method for giving good results. I make the following solutions:

A.

Glycin	75 grains.
Metol	10 "
Sulphite of Soda	3½ ounces.
Carbonate of Potassium	3½ "
Water	40 "

Also a second solution:

B.

Glycin	40 grains.
Metol	8 "
Sulphite of Soda	600 "
Water	16 ounces.

You will notice that the latter (B) contains no carbonate of potassium. It is employed to increase the density.

I first subject the print to the action of Solution A, and if it progresses in development gradually and grows in intensity in a minute or so, I allow it to continue in the developer; but if indications are shown that it needs more density—that is, is lagging somewhat—I add a measure of solution B as a stimulant. However, do not be too precipitate in expediting the evolution, and so probably spoil your picture. If there is evidence of overtoning, dilute with water and a few drops of bromide, but I imagine the print is always softer for the omission.

If you think you have rather undertimed your print, take one measure of A, one-half measure of B, one-half measure of water.

Wash the developed print in two or three changes of water, and fix in weak, freshly made hypo. To avoid blisters, let the first wash-water contain a little common salt.

ALERTNESS.[1]

BY JOHN H. BATES.

ASPIRATION is the invariable antecedent of all permanent advancement. It implies a broad and distant mental outlook, a kind of depth of mental focus. Victor Hugo says, "No perspective, no ambition." There must be with the mind truly ambitious an apprehension of possibility as well as opportunity.

The photographer must have an outlook and aspiration that rises to the very best possible in his art. After all, art is the end, not plates, not prints. His work lies within the sphere of the imagination, and through it he is to exalt human life.

The outlook will sometimes be misty and indistinct. Burns used to say that the images which he draped in verse came out of the fog. That is true of every creative genius, its images are born or formed of cloud or mist. Photography does not disclose all its artistic possibilities. Its future is enveloped in mist, but the mist is full of images. We cannot exhaust them. It is not for us to see them all at once in their bewildering variety and dazzling beauty,

[1] Written for *Mosaics*, 1897, but received too late.

but to maintain our expectancy and to evoke them in more and still more beautiful and wonderful forms. The past is a lesson; follow the photographic exhibitions of the last decade; who would have dreamed ten years ago that, with our stiff instruments, such creations were possible as those displayed at the last convention? Then they were in the fog, now they are in the light.

Now is the time for expectancy. We may look for greater things. Aspiration is prophetic. Who is satisfied? He that is dying. What is good enough? Nothing. "Pyro is good enough for me." No, it may be better than metol or amidol or eikonogen, but some developing agent will yet surpass it. Developers are like brushes and pigments. The painter uses not all flat brushes, not all sharp pointed; not all blue or yellow colors. We have not half learned how to use the developers. Be on the alert, follow suggestions. Have a knowledge of chemistry that will enable you to blaze a new path in development if the chance comes. Get something first hand. Be not always a dealer in second-hand wares. Why should we always get our studio plans and formulæ and methods from someone else? Ponder. Grind your chemicals and ponder, mix your solutions and ponder. There is a wonderful and inexhaustible power in inventiveness if you keep it alive. The spirit of the new and better thing in photography is flitting around you waiting for incarnation. Attend; keep your ear open with an open mind back of it. Someone must usher in the new era, it may be you. Let alertness be your watchword for 1897.

A MASSACHUSETTS STATE ORGANIZATION IN SIGHT.

As a preliminary step to a State organization in Massachusetts, the announcement below has been circulated and a meeting held. Particulars will appear in our next issue. It is hoped that "all New England" will "join" until there is strength in other States to follow suit. The veterans will not forget that the exhibition of the first national organization was held in Boston and was largely attended by New Englanders. Here is the notice:

"TO THE PHOTOGRAPHERS OF NEW ENGLAND.

"GREETING: In order to raise the standard of our art to a place much higher than has been reached by a majority of our craft in New England, it has been decided to change the original object of this club to one with a more practical basis, by having a convention and exhibition of our work during the year 1897. We can then exchange ideas regarding methods of lighting, posing, developing, etc., and by studying the examples of work displayed be induced to a greater effort, and be enabled to place ourselves in better positions with our patrons by being competent to send out work of a higher order of excellence. There is a great benefit to be derived from such a convention and exhibition, and exchange of ideas gives a new stimulus to improve upon our work. Practical demonstrations are of more value than years of study alone, and the advantage of seeing and hearing that will be given to everyone attending the convention can hardly be estimated. Progress is the result of continued effort, and in proportion to the encouragement it receives depends the rapidity of its growth. If you cannot contribute to the active part of the convention, honor it by your presence, and show an interest in its organization. The inspiration which you will receive by attending will spur you on to attain a fore-

most place in your profession. This invitation is sent at *this* time to all photographers in New England to become members *at once* either by replying by letter (see conditions below[1]) or meeting with us at our annual dinner at the United States Hotel, Boston, Mass., December 11, 1896, 7 P.M., and it is earnestly urged that all photographers unite with us and make it the strongest organization of its kind in the country. A large list of prizes will be given for meritorious work in the different classes, and the photographers of the smaller towns, who might naturally feel that they would be at a disadvantage in competition with those of the cities, will be taken care of, and prizes will be offered for which they alone are eligible. We want to make this association, convention, and exhibition the grand success of 1897. *Will you join us?* Fraternally yours.

"GEORGE H. HASTINGS,
" Prest. P. C. of N. E., Boston.
"BARTLETT F. KENNEY,
" Secretary, Boston."

[1] From the Constitution, Art. III. (Terms of Membership):

SECTION 1. Any resident of New England who is eligible may become a member of this Association by making application to the Treasurer, signing a copy of the Constitution and By-laws, and paying an initiation fee of two dollars and one year's dues of one dollar in advance.

SEC. 2. Any non-residents of New England who are eligible to honorary membership may become such by remitting initiation fee to the amount of two dollars in advance to the Secretary of this Association. They shall not be eligible to officiate or vote at our meetings.

SEC. 3. Employés will pay into the treasury their annual dues, the sum of one dollar in advance. No initiation fee shall be required.

THE CONVENTION OF THE PENNSYLVANIA ASSOCIATION.

THE success of every venture depends largely upon the amount of push and support it receives in the beginning. And it often happens that the more generally beneficial the venture is, so much the more difficult is it to get the support requisite for its success. This is especially true of the beginning of a fraternal organization. Hence we add this last word to urge upon our subscribers in Pennsylvania and the neighboring States the advantages of supporting the Photographers' Association of Pennsylvania. Everyone who can possibly arrange to get the time should make an earnest effort to attend the convention of the Association at Harrisburg, Pa., on the 26th, 27th, and 28th of this month.

The Pennsylvania Association, like the other State organizations, is the outcome of a great deal of hard work on the part of a few photographers, who see in union many advantages which the single-handed worker cannot secure. The Association is now a fact, and its first convention promises to be a very profitable gathering. Both deserve the cordial co-operation and support of the photographer.

A very liberal prize-list has been prepared by the Executive Committee of the Association, and for a whole year the photographers of the State have been working to secure the grand prizes offered in the various competitions. A fine display of photographic work of all kinds may, therefore, be expected. From what we hear, this department of the convention alone will be worth going to Harrisburg to see and study.

The Russ Hall, which has been secured for the convention, is the best meeting-place in Harrisburg for the purpose. It extends 50 x 150 feet, is well lighted, and is located in the centre of the town. The Harrisburg photographers have undertaken to make the members attending the convention as comfortable as possible, and will have charge of local matters looking to the entertainment of visitors. In addition

to the regular prize-list of the Association many dealers and manufacturers have given valuable prizes for competition. These are all listed in the "Prize Award List" given in the October, 1896, number of this MAGAZINE.

The great progress made in American professional photography of late years is doubtless due, in large measure, to the growth and interest taken in the State Associations. No photographer can attend a convention of his co-workers without receiving direct benefit and help in his work. This, with the opportunity of seeing what his State is doing in photography, should spur every photographer, and as many employés as possible, to make sure of attendance at the forthcoming convention. Under Mr. Hemperley's enthusiastic leadership it cannot fail to make a new record among our conventions. In his address to the fraternity Mr. Hemperley says:

"We have passed through the stages of anxiety and encouragement into one of enthusiasm, and we now feel that we have smooth sailing. The membership-list is growing fast, the offers of friendship and substantial assistance, from our best friends, the dealers and manufacturers, are pouring in on us, and we will have in attendance, as visitors and talkers, some of the leading photographers of America, some of them promising complimentary exhibits of their magnificent work. We will have some new features and ideas never before having been done at any convention. Come and compare notes with the rest of us, enjoy a few days of relaxation from business cares, reap the immense benefit of coming in contact with others, and you will go home a wiser and better man, or else my past experience goes for nothing."

We fully indorse these sentiments.

THE PROFESSIONAL PHOTOGRAPHER AND "MOSAICS."

FALK BUILDING,
13 & 15 WEST 24TH STREET,
NEAR MADISON SQUARE,
NEW YORK

Falk **PORTRAITS.**

Dec.7th,1896.

My dear Mr.Wilson:—

Mosaics received. In spite of its small size it is certainly the most useful and up-to-date book for photographers which I have seen for years. You are bound to sell lots of them.

I notice that you have started in vigorously to help the cause of the Copyright League by stirring up photographers on that subject.

Yours truly, Falk

Please send me 3 more Mosaics,

MOSAICS has always been the favorite year-book of the practical worker. Never, however, has the professional appreciated its special usefulness so much as this year.

Our mail since December 1st, when the book was first sent out, has been laden with expressions of congratulation and goodwill. Along with these have come thousands of orders, many of them duplicating previous orders, until our large edition has melted like snow before the sun, and less than five hundred copies remain unsold. The letter from Mr. Benj. J. Falk, here reproduced, is representative of hundreds of others. To find room for all would overcrowd our space. We thank all friends who have written with so much courtesy, and advise those who have not yet secured a copy of *Mosaics* to do so without delay. Particulars of its contents appear in the announcement in our advertising pages, but the book itself must be seen and read to be appreciated. As one enthusiastic reader writes: "It is worth its weight in gold to me." To the "silver" man it is worth its weight in silver. It will certainly put money into the pockets of those who use it with intelligence and enterprise.

A review of photography during 1896, with all formulas and methods worthy of recording; fifty practical articles by our leading photographers, and full-page engravings of prize-pictures by the 1896 prize-winners. Paper covers, post free, 50 cents. Library edition, $1. Only a few cloth-bound copies may be had. Send your order early.

NEWS AND NOTES.

A BERLIN firm of photographic printers has secured an order which calls for 10,000,000 cigarette pictures, to be printed on bromide paper. This is probably the "record" as far as large orders for prints go. The American industry of making cigarette pictures has, we learn, been almost totally destroyed by the now universal custom of offering "motto buttons" with packages of cigarettes in place of the photographs formerly used.

A Technical Exhibition. It is proposed to hold in London at an early date an exhibition devoted to technical photography, comprising the apparatus, instruments, processes, and working methods used in all the departments of photography. The idea is an excellent one. Why should we not have a similar effort made for Celoron this year. It would equal the School of Lighting and Posing in usefulness.

The Action of Light in Photography is the title of a new book, by Capt. Abney, just published by Sampson, Low & Co. It is devoted to the scientific side of its subject, and contains a chapter on the Theory of Pinhole Photography.

Another View of Acetylene. In a late issue of the London *Amateur Photographer* an American chemist writes in answer to a correspondent:

"I have been connected with this gas in America for the last three years, therefore I may be able to prove that acetylene *is not* the dangerous compound your correspondent would have your readers believe. Your correspondent claims acetylene to be liable to spontaneous explosion. Such is not the case, neither will it explode by the generator receiving a shock. This will prove it: I filled an iron ball with acetylene to a pressure of five pounds to the square inch, and then subjected it to a series of blows from a large sledge-hammer. Although the ball was bent in all shapes there was no explosion, neither has there ever been to my knowledge through this cause. Acetylene has a chemical action on *pure copper*, but none of a dangerous kind on brass. Series of experiments have been conducted by me at the Chem-

ical Society of New York, and they all go to prove this. Several insurance companies in England are at present willing to insure houses, etc., lighted with acetylene, and, no doubt, in a short time all will do so. I may add, there were last year 730 people using acetylene as a general illuminant in New York, and that only three accidents occurred, two through escapes and one through a generator being charged with a candle close by, conditions under which coal gas would have acted just the same. Acetylene gas is far healthier to burn than ordinary coal gas, and when inhaled its effect on the human body and the lower animals is far less dangerous than coal gas. In conclusion, allow me to request your readers to make a practical test, and I am sure they will agree with me that acetylene is an ideal illuminant, both for general and photographic purposes, and, under proper conditions, just as safe as coal gas.—*Percival C. Foewin, F.C.S., U.S.A.*

Sunday Work. Several English photographers have recently fallen within the clutches of the law for working their employés on Sunday. This is as it should be. Six days for work out of the week's seven is sufficient for employé and employer.

Carbon-tissue. To quickly dry sensitized carbon-tissue in damp weather immerse it after sensitizing in a bath of alcohol for two or three minutes and afterward squeegee it, face down, on waxed or collodionized glass. It is then put into a wooden-box, previously well dried before the fire; the tissue will dry in a few hours.

Relative Power of Fixed Alkalies. The relative values of the alkalies used in development are about as follows: Carbonate of soda, 2.8; carbonate of potassium, 5.0; sodium tribasic phosphate, 3. This latter has the advantage of not causing frilling if used in excess, and gives more details than he other alkalies.

Restrainers. J. Von Norath writes in the *Zeitung* that the general notion that bromide acts as a restrainer in development is incorrect. It is possible that bromide prolongs development, but iodide of potassium acts much more powerfully than bromide, and small additions of this salt to the developer will greatly prolong the time of development and give increased contrast in the negative. A practical demonstration of this may be had by making a negative of any subject with black lines on a white ground. Expose the plate twice as long as usual, and develop with a solution to which has been added 5 per cent. each of 1 in 50 solution of iodide of potassium and a 1 in 200 solution of bromide of potassium. The development will proceed slowly, but will produce an intense black-and-white negative.

Aluminium Litho-plates. Joseph Scholz, of Mentz, has worked out a process of preparing aluminium plates for use as substitutes for lithographic stones. The process is patented, but the plates and working method can be had from the inventor. Aluminium plates have also been successfully used as a substitute for glass plates in collotypy at the Vienna Technical School, under the direction of Herr A. Albert.

The Actien Gessellschaft für Anilin Fabrikation, of Berlin, manufacturers of the developers eikonogen, amidol, rodinal, etc., have been awarded the golden State medal at the Berlin Industrial Exhibition, 1896. The same company's exhibits at the Berlin International Photographic Exhibition, 1896, also received the highest award for excellence—a gold medal.

A New Developing Tray has been invented. It consists of an open frame, which is converted into a developing-dish by clamping the negative to its open bottom. The dish so formed is provided with

a well at one end into which the developing solution is poured previous to being run over the plate, and for use as a receptacle for the solution while the negative is being examined during development.

Copyright. A bill for the protection of photographs by copyright is at present being considered by the New Zealand Legislative Assembly. Its leading feature is the proposal that copyright should be conferred on all photographs which bear the word "protected," together with the true date of the taking of the picture. Registration is to be done away with. This is reasonable. The producer of a picture should have sufficient protection for his work in the statement that it is his —as maker.

Dry Collodion Plates are once more being introduced in Europe. They are said to be especially adapted for lantern-slide work, from which it may be inferred that they are not rapid enough for competition with even slow gelatine-plates for ordinary work. Gelatine-bromide negative paper is also a recent introduction on the "other side." It is said to give excellent negatives, and is much in favor among tourists as a substitute for rollable films.

A VERY simple little view-finder and camera level combined has been patented by H. W. Hales, of Ridgewood, N. J. It is in form similar to the general appearance of the small finders on every hand camera, but in construction and effectiveness it is altogether different, and the differences make for the improvements claimed. The Hales finder gives an exceedingly brilliant image, exactly similar to that shown on the ground-glass of the camera, without loss of illumination or the necessity of a protecting hood for viewing the miniature image. The levelling device is so arranged that no liquid is used to leak or spill in case of accident. This instrument is, we believe, the first of its kind to combine a finder and camera level.

THE STUDIO LIGHT.

NOTWITHSTANDING the abundance of information published concerning the construction of studio lights in *Quarter Century* and this MAGAZINE, our daily correspondence evidences the fact that the subject is inexhaustible in interest. We therefore begin anew the discussion by reprinting from *Photography* some portions of an article relating to skylights by Mr. F. M. Sutcliffe.

"The perfect photographic studio or operating-room has yet to be built. Endless attempts have been made by nearly every photographer to reach this perfection, but we may conclude, from the fact that fresh experiments in studio building are being made every day, that the perfect operating-room has yet to be built. What seems so easy in theory is puzzling in practice. Theory says light from the sky enters the aperture, which in this climate we have to cover with glass, at an angle of 45°, and that it is immaterial whether the aperture is in the side of the building or in the roof or in both, as long as the light can reach the sitter at this angle. But if light from the sky always falls at an angle of 45°, what necessity is there to bother about side-light or top light? If light travels in this direction only, all light which does not fall on the sitter will *miss* him, and not interfere with what we are all aiming for, the making of a properly-lighted subject. Any photographer who has built a studio believing that light would travel as it is said to do may be excused for doubting the truth of the theory, and for coming to the conclusion

that light seems to travel at other angles besides that of 45°, and the light in the roof which he expected would pass harmlessly over his sitter's head comes *straight down* on to the top of his head, giving the sitter that cadaverous, sunken-eyed appearance we know so well, which is to be avoided at any cost by the man who wishes for a pleasing likeness. How does the photographer get rid of this objectionable appearance his sitter wears? Simply by either moving him where the light from the zenith cannot reach him, or he puts a blind or a screen over his head to stop the *top-light*, a thing which would have no being if light travelled, as it is said to do, at an angle of 45°. It is just the same with side-light; the rays which you would expect to find on the carpet, or on the sitter's boots, seem to touch his cheek and his shoulder. If his face is too flat from an excess of side-light, putting a screen the height of his cheek between him and the light will give the missing roundness. From this we gather that light strikes the sitter vertically, at an angle, and horizontally, and that as experience tells us that neither the vertical nor the horizontal light gives such a pleasing contour of the features of the average face, light coming from above and from the side wants stopping out. Yet this is so at variance with theory that we look round to see if there is any reason for this unaccountable misbehaviour of the rays of light in so straying from their accustomed path. We can see nothing except the glass with which studios are glazed, and though we have been told by writers on studio building over and over again that the angle at which the glass is put is of no moment, yet it is difficult to believe that this can have no influence on the passage of the rays of light. Everyone knows that light takes the shortest road, and if it comes to a piece of glass at an angle of 45° we should suppose that it would get through it with less loss of time and energy than if it had to get through a pane set vertically, or at any other angle than 45°, especially if the pane of glass is of any appreciable thickness, as the glass in most operating-rooms is. Yet in a studio glazed with a single window at an angle of 45° light from the sky seems to fall at other angles on the sitter. Whether this would be so manifest if the glass were perfectly clean and not obscured, to a certain extent, with dirt, is open to question. . . . From the American magazines it appears that the high sloping side-light is especially in favor in the States just now,[1] and some of the pictures we have seen taken in such a studio, with a side-light twenty feet high, are as perfect as anything we have seen, and though no blinds or head screen were used above the sitter's head there are no heavy shadows under the eyes. In this case the light seems to have behaved properly and have gone over, without coming down on, the sitter's head, and hit the opposite light-colored wall, and from there been reflected to the shaded side of the face. Why the top-light sometimes appears to light up the top of the sitter's head in some studios and not to do so in others of similar construction is a strange thing. At first sight it would seem that the light from a high side or sloping light would be so far away from the sitter as to be very weak and diffused, and not likely to overpower the light from the glass near to the sitter's head; but just the opposite is found in practice, the light coming in at the side-light near the sitter does not seem so strong as that coming from the highest part of the window. . . . A high side or high sloping side-light, if it can be properly worked, has many advantages over a light on the roof. In the first place, it does not get so dirty, for the soot and dust do not settle so on it, and if a pane of glass gets broken the glazier is not likely to break

[1] See the September (1896) number of this MAGAZINE.

two or three more by moving his feet as he crawls about the roof in mending the one, and his weight and that of his ladder are not so liable to strain the woodwork and cause leaks. An upright light does not leak like a flatter one, especially if no putty is put on *outside* the glass. If well bedded on putty, it is not necessary to use any *outside*, for this only cracks in time and causes leakage. Then with a high-light neither the sun in summer can get in nor the snow in winter settle thereon. Whether, after all, protographers are wise in turning their backs to the sun when building their studios is a question. To be sure, a south light would be more trouble-some to work, that is, there would be more variation in the quantity of light, but it has always struck us that when the light is very powerful the color values are more correctly rendered. At this time of the year, when the light is at its worst, the flesh tones of a healthy subject appear green when under a north light, but if the subject is taken into a room facing the south the greenness gives place to a natural healthy color. Everyone has noticed the heavy appearance of a face taken when the light is bad, and the want of half-tone, even when the exposure has been prolonged." The opinions of our readers will be welcomed.

PHOTOGRAPHIC STUDIES BY SCHUMACHER.[1]

THE cordial welcome given by the fraternity to Series I. and II. of the Pictorial Lessons in Portraiture has encouraged us to continue the work. The first two series comprised examples of portraiture by Mr. B. J. Falk, of this city. They were quickly taken up by earnest photographers in our own country and abroad, and appreciated by all who saw them. Series III., now ready, consists of selected portraits by Mr. F. G. Schumacher, of Los Angeles. The pictures measure $2\frac{3}{8} \times 1\frac{5}{8}$ inches, and are actual photographs mounted in groups of four on cabinet cards and burnished.

Mr. Schumacher's reputation as an artist in photography is known to all of our readers. In this number of the MAGAZINE may be found several engravings from his "Fiesta" pictures, which convey some idea of the quality of his work. From the studies of Series III. a better appreciation of the posing and lighting may be secured, by reason of the superiority of the photographic over the half-tone reproduction.

The value of such a series of pictures to the photographer cannot be overestimated. In every example of good work there are many important lessons for the student, and in the Schumacher series the photographer has no less than forty-eight selected studies. First one may take the series and look at its pictures from the standpoint of posing; a second lesson may concern lighting; a third, backgrounds and accessories; a fourth, grouping; a fifth, the disposition of the hands and arms; and so on.

From all these points of view Mr. Schumacher's pictures, as arranged in Series III., will be found profitable. The collection contains examples of bust, half, three-quarter, full-length figures, costume-portraits, children, groups, vignettes of head and figure, and several of the "Fiesta" pictures referred to elsewhere in this issue. Each picture has its own individuality, there is no repetition; in all the charming subjects have received appropriate treatment and the results are worthy of much praise. To the beginner in the studio they will be so many inspirations in his work; to the veteran portraitist they will suggest new

[1] Series III. Pictorial Lessons in Portraiture. Forty-eight artistic studies by F. G. Schumacher, Los Angeles. $1 postpaid. Published by Edward L. Wilson, N. Y.

poses and combinations of graceful lines with novel effects in lighting.

In an excellent paper on "Studying the Work of Others," in *Mosaics*, 1897, Thomas Aquinas says: "The advantages of studying the actual work of those who are acknowledged to be masters in the profession, in preference to reading accounts of their methods of working, are self-evident. It is the most direct and profitable way of learning what the masters can teach us; and an actual example of work tells us more than any description. It is a wider, broader, and deeper exposition of the man's practice, and we can assimilate its teaching with the abundance of suggestions which sprung from the constant reiteration of the lesson as we examine the work again and again at our leisure. Point after point develops itself at each scrutiny, things not fully understood at first glance become apparent, the whys and wherefores are finally answered, the applications of the principles involved are made plainly manifest." An excellent use for such collections is to gather them together as examples of work by leaders in the profession, not only for study as a means of progress in daily work, but also as an ever-ready source of æsthetic pleasure and inspiration. They will also prove useful in the reception-room, where they may be shown to patrons who are in doubt as to the style they desire. In the varied styles comprised in the series will be found examples adapted to all tastes.

As many were disappointed by not applying for sets of Series I. and II. until they were out of print, we would counsel those who desire to possess the Schumacher series of studies to obtain them as early as possible.

THE BACKGROUND.

BY THOMAS AQUINAS.

THE phrenologist reads a man by his head, the palmist by his hand, and there are many other ways of estimating character; but the surest way of sizing up a photographer is to watch his choice and use of backgrounds. In portraiture, and especially in bust and figure work, the background will tell at a glance the mental and artistic standing of the photographer. It is astonishing to see how widely the background has been neglected, even by men who are scrupulously finical in every other detail of their work. One has only to look around to appreciate the fact that not one photographer in a hundred has grasped the vital fact concerning the choice and use of grounds in picture making, viz.: subordination.

The background has its place, and it is an important place in portraiture, but it should always be subordinated to the main point of interest the—subject. There are occasions when emphasis may be given by a strongly contrasting ground, but these are rare, and even when they occur the highest point of the background should simply lead to the still higher point of interest in the subject. As a rule, the ground should be chosen to convey repose, and it should always be in harmony with the rest of the picture.

As far as my observation goes, the background evils perpetrated by photographers are largely due to a too slavish following and use of the conventional designs furnished by the manufacturers of grounds. Because a ground is painted by this or that "famous artist" is not sufficient excuse for its use except where it is appropriate to the pictorial scheme of the picture in which it is introduced. Every subject requires its own individual setting when perfection is

sought, and this proper setting can only rarely be obtained in a background "ready made." Thus it happens that in the studios of those whose work has won the approval of art critics we find comparatively few "ready made" grounds, the ground required in each picture being made up according to the requirements of the subject.

If photographers would only "get down" to this simplicity in their choice and use of grounds they would not only make better and more pleasing pictures, but would also save considerable in their outlay for background equipment.

With a dark ground, a light ground, one graded from light to dark, and an assortment of convenient lengths of designed and plain fabrics, the portraitist may consider himself fully equipped for all the contingencies of pure portraiture. I recall a busy studio where cabinet pictures are charged at $15 to $25 per dozen, in which no other grounds are used than those mentioned. And in a year's practice, with these limited facilities, the operator learns to accomplish many things before seemingly impossible. The successful worker uses the simplest methods.

EDITOR'S TABLE.

"DISCORD IN THE CHOIR," in our November issue, should not have been credited to Mr. F. W. SOMERS, but to Mr. H. RANDALL, New Haven, Conn. The error was ours, and we regret it.

FROM Mr. R. E. WESCOTT, Lowell, Mass., we have received a number of interesting genre pictures of children engaged in various pastimes. They are excellent, and some of them we shall engrave presently. "Boys Spinning a Top" is one of the best. One of the best character studies is of Mr. LEWIS MORRISON as "Dante." We shall have more to say of these. Mr. WESCOTT is doing some wondrous things in radiography as well. In developing and with ray plates he says he has had best success with metol. Metol-hauff, 2 grains; sulphite (crys.), 24 grains; carbonate of potash (gran.), 24 grains; water, 1 ounce. With a quick exposure (5 to 10 seconds for a hand), the best results are had with this developer.

MR. T. A. CARLTON, Holdrege, Neb., favors us with several 5 x 8 river views and some kodak shots of similar scenes, which are very attractive and well printed.

FROM Messrs. CHARLES COOPER & Co. we have their December price list of chemicals. It is very complete and convenient to have at hand.

Röntgen Rays and Phenomena of the Anode and Cathode is the title of a timely work by EDWARD P. THOMPSON, M.E., C.E., with a concluding chapter by Prof. WM. A. ANTHONY, just published by D. VAN NOSTRAND CO. 190 pages, 60 diagrams, 45 half-tones, and a full-page portrait of Prof. RÖNTGEN. Price, $1.50.

As we have said, this work is timely at this period of photographic effort with the x-ray. To prepare himself for writing his book, the author must have engaged in a close review of the history of experiment with induction coils and vacuum tubes. Beginning with Faraday's work, sixty years ago, all the more important contributions to knowledge in this particular branch of electrical research are succinctly described. As an introduction to an account of the famous Würzburger's discovery, the practical applications of the x-rays which have been made in surgery are recounted at considerable length, with incidental mention of the use of fluorescent screens and fluorescent material on photographic plates. All beginners in radiography would do well to consult it now. For sale by EDWARD L. WILSON, 853 Broadway, New York.

AT the Celoron Exhibition a great deal of attention was drawn by a charming 18 x 22 picture from the studio of Mr. A. L. JACKSON, Tacoma, Wash., entitled "Mother and Child." A young mother is seated in a very natural attitude, profile, looking downward at her babe folded to her breast. The back of the little one is turned to the camera. The mother has one hand under its head; her other hand holds one of the hands of her babe, as though

to keep the tiny figure from falling. The pose of both figures is carefully and thoughtfully done, and the lighting and technique of the picture are admirable. Such a subject is within the domain of pure and legitimate art, and reflects great credit upon the skilful photographer who managed its production. He has favored us with an aristo-platino print from the negative, beautifully vignetted and finished.

THIS NEW YEAR NUMBER OF OUR MAGAZINE will reach parties who are strangers to it, who may contemplate adding their names to our subscription-list, as well as others who are undecided as to a renewal. For their information we add a few kindly words just received from some of our veteran subscribers, which may decide them as to which side of the ground-glass they had best focus upon for 1897:

Mr. ROBERT E. WESCOTT, Lowell, Mass., writes: "Your MAGAZINE proves a most pleasant visitor. Long may it prosper."

Mr. JOHN R. HANNA, Auckland, New Zealand, writes: "It is now over twenty years since you extended the right hand of fellowship toward me. During the whole of that time you have assisted me in every possible way. I offer you my best wishes and hearty congratulations for the new year. May prosperity attend it."

At this season of renewals many such kindly testimonials come backed by substantial evidence of their sincerity.

"You don't know how much good THE MAGAZINE does me. Its coming gives me courage to go on, hoping for better things, financially and artistically.

"The older I get, the more I read, the less I find I really know, and the harder I must work to know and do. You are helping me immensely.

"GEORGE N. MOORE, Seattle, Wash."

Mosaics, 1897, seems to be "a hit," and the edition is rapidly disappearing. Here are some of the good words for it:

"Bright, and just sparkling with photographic news. ERNEST HECKROTH, Philadelphia."

"The articles are all characterized by knowledge and good sense. The illustrations are good. One feels on opening the book that he cannot expect to find much that is new; and, on the contrary, it is full of interest and instruction.

"XANTHUS SMITH, Landscape Painter,
"Philadelphia."

"Permit us to congratulate you on the excellent appearance of *Mosaics*. The plates seem to us to be much better than formerly, and very creditable, indeed, to you. We wish you every success.

"JOHN ROYLE & SONS,
"Manufacturers of Machinery for Photo-
"engravers, etc., Paterson, N. J."

If you desire to secure *Mosaics* for 1897, it is safer to attend to it at once. There will be no second edition.

"ONCE more let me thank you very much for *Cyclopædia of Photography*. It is the only book I find myself using for reference since I received it. I hardly ever open any of the other books on my shelves. ROBERT E. WESCOTT,
"Lowell, Mass."

OBITUARY.—We have to add to the long list of departed friends: On Friday morning, November 27th, DAVID KNIGHT CADY, of Cincinnati, died, in the eighty-second year of his age. Mr. CADY was one of the oldest and one of the best-known dealers in photographic materials. Many years ago he succeeded to the business of PETER SMITH & Co., and conducted it until his last illness occurred. To relieve his distress, finally, a surgical operation was resorted to; but he was too weak to recover from the shock, and passed away. Particulars for a sketch of his useful life, together with his portrait, are being prepared for our next number. His wife, his son, JOHN H. CADY, and his daughter, Mrs. RICHARD J. LEWIS, survive him. He was buried from the house of his daughter, Sunday afternoon, November 30th, at 2.30 o'clock. A host of friends share the bereavement and sorrow caused by his untimely death.

"HAMMER PLATES" is the motto adopted for 1897 by many of our most noted workers in Philadelphia, Boston, New York, Buffalo, and other Western cities. The SCOVILL & ADAMS CO., of New York, Eastern agents, report largely increased sales and satisfaction among those who use these excellent plates. Their two chief characteristics are rapidity and uniformity. They are always the same, and always as rapid as is desirable. A few days ago we had the pleasure of a talk with Mr. W. A. NYE, the Hammer Dry Plate Co.'s New York representative, and were delighted with a number of charming portraits in carbon he carried with him as specimens of the work done on Hammer plates. These excelled in chemical effect and delicacy of gradation.

A MEDLEY OF CHILDREN.—Mr. C. P. McDONNELL, of Cambridgeboro, Pa., sends as a souvenir to his patrons a folder showing a medley of children (containing some hundreds of little ones photographed by him). It is an entertaining picture and persuades business.

THE COLUMBIA PHOTOGRAPHIC SOCIETY, of Philadelphia, has taken the whole of the house at No. 1811 N. Broad Street, and fitted it up as a photographic club house, with every social and technical convenience. The club programme for the winter is an interesting one, and offers many inducements to members. Practical demonstrations are given each Monday evening, and the rooms of the club are always open. Photographers located around Philadelphia will find many advantages in being members of this Society. Communications should be addressed to Mr. J N. REEVE, No. 203 Walnut Place, Philadelphia.

IMPORTANT NOTICE.—In consequence of a recent decision of the United States customs appraisers, the import duty on all photographic lenses entering this country has been raised from 35 per cent. to 40 per cent. By this decision the quotations in the price-lists of imported lenses are increased by 4 per cent. This information is taken from a special circular issued by Messrs. ROSS & Co., opticians, London.

COLUMBIA COLLEGE, New York, has ordered from Mr. C. C. LANGILL, of our city, a specimen negative and print 20 x 36, showing the work of the GOERZ double anastigmat, as referred to in our December, 1896, issue, at page 550. This is an honor for Mr. LANGILL and Mr. C. P. GOERZ, the manufacturer of the GOERZ lens. The inset engraving of Fifth Avenue and corner of Fourteenth Street, given in our last as an example of Mr. LANGILL'S commercial work, has excited much comment and admiration.

THE MILWAUKEE CAMERA CLUB held an open exhibition of photographic work at its rooms in the Ethical Building during the latter part of November last. Prizes were awarded for amateur and professional work, and the display exceeded expectations.

A MAP OF PART OF DETROIT, showing the Art Museum, hotels, railroad depot, and Messrs. ALLEN BROS'. store, has been issued by Messrs. ALLEN BROS., the enterprising photographic supply dealers of that city. It is intended to guide those attending the Michigan Convention, to be held at Detroit, February 2d and 3d. Among the prizes offered at the convention is a No 5 B Suter lens (given by Messrs. ALLEN BROS.) for the best group of photographs, size 5 x 8 or over. The chance of winning so famous a lens should provoke healthy competition, and some good work may be looked for.

Messrs. ALLEN BROS. have passed the quarter-century milestone as manufacturers and dealers in photographic supplies. They are the sole agents for the Suter lenses, and have an enviable reputation for courtesy and fair dealing.

CONDENSED LIGHT is the trade name of the latest flash powder put on the market. It is said to possess unsurpassed illuminating power, burns instantaneously, and is perfectly safe to handle, at least so far as danger of ignition by friction is concerned. All dealers sell it, or free samples may be had from the manufacturers, JAMES H. SMITH & Co., 311 Wabash Avenue, Chicago, Ill. Note the change of address here recorded.

CAMERA STANDS.—The photographer's wife who has not yet given her good man his new year's greeting should look into the sterling merits of the camera stands announced in the advertisement of Messrs. JAMES H. SMITH & Co., in this number of the MAGAZINE. They are elegant in design and reliable in construction, while the prices are unusually attractive.

Burnet's Essays on Art.—We have secured two copies (second hand) of this invaluable art guide. One is the English reprint, not as good as the reprint we ourselves published. The price of this copy is $3.00. The other is our own reprint, text and pictures perfect, covers slightly damaged, price $6.00. Early application for these is advised or disappointment may result. We cannot promise to secure more copies.

"1897" is the legend inscribed in gold on the morocco covers of a neat pocket memorandum-book, issued with the compliments of the season by Messrs. JOHN ROYLE & SONS, of Paterson, N. J It contains a diary for 1897, several pages of useful information, spaces for addresses, and calendars for 1897-1898, with a miniature cash-book. The "Personal" page in the fore-part of the little book appeals to the humorist although intended for vital statistics. The "Process Advice," given here and there, is as reliable and as well constructed as the photo-engravers' machinery for which this firm is so famous at home and abroad.

LESS than five hundred copies of *Mosaics*, 1897, remain unsold. The professional worker has appreciated the fact that *Mosaics* is the *best* of the year-books for all who who work under the sky-light. It contains fifty practical articles on every-day topics by men who are known by their work, profusely illustrated with fine engravings. Paper covers, 50 cents, post-paid. Library edition (a few copies only), $1.00. Get a copy to-day and avoid disappointment.

The Ferrotypers' Guide, published by the SCOVILL & ADAMS CO., of New York, is now in its seventeenth edition. A new reprint is now ready, printed on thick paper and bound in strong paper covers. It is the best and most reliable manual published for the ferrotyper.

A CURIOUS PICTURE.—In the *L. A. W. Bulletin* of recent date appeared an engraving of a deer from a photograph taken by the deer itself at midnight. It was secured by placing a camera on a deer trail. To the camera was affixed an automatic arrangement which, when touched by the foot of the animal, ignited a supply of flash-powder and operated the shutter, exposing the plate.

THERE is no better way to secure progress in knowledge than to come in direct relation with kindred minds; to seek for the proper nutriment in those storehouses where are treasured up the golden grains of other men's ideas, opinions, and experience. No exercise is more essential in getting one out of the narrow groove of prejudice or the stagnation-ditch of self-opinion than the learning of the results of the active workers in our profession, chronicled in the pages of those books which yearly appear as epitomes of photographic progress. The little pocket annual before us, the *Photographischer Almanach*, which comes from Dusseldorf, Germany, and which for so many years was ably edited by our distinguished deceased friend and colaborer, Dr. PAUL ED. LIESEGANG—now under the excellent management of his son, R. ED. LIESEGANG—gives us exceedingly good pabulum whereon to grow photographically well-fed.

The contributions are especially valuable, touching on those processes in the various departments which are of practical importance, and the formulæ and other information presented are calculated to enrich our fund of knowledge and to incite our desire to investigate and thereby add our share to the beneficial information. It suffices to mention the names of Dr. EDER, Dr. SCHUMANN, CHAPMAN JONES, J. WATERHOUSE, and WILLIAM CRONBERG as contributors. It contains also as frontispiece an excellent portrait of the late Dr. PAUL ED. LIESEGANG.

Mosaics, 1897, is received, and I return many thanks. By all odds it is the *best you ever published*. I like it very much. You ought to sell the whole of the edition. Yours fraternally,

Dec. 14, 1896. JEX BARDWELL.

THE WISCONSIN STATE PHOTOGRAPHIC ASSOCIATION is at last an accomplished fact. CYRUS CHADBOURNE, of Fond du Lac, is the president of the new organization. A convention for 1897 is being arranged.

THE AUTOMATIC PHOTOGRAPH CO., 25 West Twenty-fourth Street, New York, has perfected an ingenious apparatus for the development of kinetoscopic films for projection. Hitherto these films have been sent to Europe for development, it being almost impossible to treat them by hand methods. This branch of photographic work is increasing in activity, and kinetoscopic cameras are common on the streets of the metropolis.

Just's Bromide Paper, the most complete manual for the working of bromide paper, has reached its fourth edition, a copy of which is before us. It is a remarkable book for its price, 50 cents. Published by PERCY LUND, HUMPHRIES & CO., Bradford, England.

DARK days lose their difficulties when the NEW CLIMAX plates are used. Messrs E. & H. T. ANTHONY & CO., New York, are the trade agents for them.

The International Annual of Anthony's Photographic Bulletin for 1897. Edited by Frederick J. Harrison. Price, postage paid, 90 cents in paper covers; library edition, $1.40. For sale by Edward L. Wilson, New York.

The *International* this year is chiefly notable for the thoroughness of its contents, an unusual wealth of illustration, and its beautiful typography. All classes of photographic work are practically discussed and illustrated. Every photographer and process worker should secure a copy and use it daily. Mr. HARRISON and the publishers of the book (E. & H. T. ANTHONY & CO.) deserve much

praise for the excellent arrangement and appearance of the annual.

The American Annual of Photography and Photographic Times Annual for 1897. Edited by Walter E. Woodbury. Price, postage paid, paper covers, 92 cents; library edition, $1.42. For sale by Edward L. Wilson, New York.

In this bulky volume, with 70 full-page pictures and 300 engravings, Mr. WOODBURY has produced the picture-book of the year. Where so much is offered for so little it would be invidious to criticise. The reading pages offer much useful information on topics somewhat out of the beaten path, and altogether the book is a marvel at the price.

SPECIAL OFFER FOR JANUARY ONLY.—While our limited stock of the three American year-books lasts we will send a copy of each, in one parcel, post free, on receipt of $2.15.

PHOTOGRAPHIC STUDIES BY FALK.—The demand for Series II. of these studies has determined us to reprint a limited number of sets. Each set contains forty-eight selected examples of artistic portraiture. They will be ready in a few weeks. Those desiring sets may secure them by remitting $1, with their order, when the studies will be mailed as soon as ready. Every progressive portrait worker, and all interested in pictorial work, should possess a set of these beautiful pictures.

OBITUARY.—We record with sincere regret the death of Mr. B. F. BATTELS, which took place November 25th, at his home, Akron, Ohio. Mr. BATTELS was one of our oldest subscribers. He learned his profession at Mount Vernon, Ohio, and occupied galleries at Wadsworth, Bucyrus, and Akron, at which place he remained over forty years. He was a thoroughly upright man and widely respected by all who knew him. The photographers of his town attended the funeral in a body, and presented a floral camera as a token of their esteem for their deceased co-worker.

THE DIXIE VIGNETTER, an excellent helper in the printing-room, is enjoying a boom. The SCOVILL & ADAMS CO., of New York, are trade agents for this well-known specialty. We have used it and can recommend it. A special bargain list, offering lenses and cameras below cost, has been issued by the SCOVILL & ADAMS CO. It contains many remarkable inducements.

MULTIPLE PICTURES.—The receipt of several attractive examples of multiple portraiture prompts us to again mention these pictures as a good business specialty for the new year. All that is necessary for their production is a KLAY multiplying holder, concerning which circulars can be had on application to Mr. PETER DILLER, Bluffton, Ohio.

FOR ALL KINDS OF INTERIOR WORK, or the photographing of glossy surfaces, Mr. CARBUTT'S D. T. non-halation plate gives superior results Those who have used it are warm in its praise.

THE MOST RAPID PLATE on the market, according to the claim of the manufacturers, is the new Climax plate, made by the Lovell Dry Plate Co., Portland, Me. This is worth noting in these days of short working hours and poor light.

A SPECIAL BOOK OFFER for January only is made on the inside back cover of this issue of the MAGAZINE. We would call the attention of all our subscribers to this offer, which presents remarkable inducements. We know of no better helpers to the photographers than the MAGAZINE and *Cyclopædic Photography*, and would like to see the special offer accepted as widely as possible.

CRAMER PLATES still hold their own among the most popular brands, and a recent report from the factory tells of growing trade. For quick work the famous Cramer Crown holds the supremacy while process men are enthusiastic over the slow and medium isochromatics for color reproduction. The new Cramer Catalogue is a little book worth having and reading. Copies can be had on application to the G. Cramer Dry Plate Works, St. Louis, Mo.

Photograms of 1896—A pictorial and literary record of the best photographic work of the year. Compiled by the editors and staff of the *Photogram*, London. Paper covers, 50 cents; cloth covers, $1.00, postage extra. Published by DAWBARN & WARD, London.

This pictorial guide to current photographic work may fairly be said to be indispensable to the progressive worker in every department of photography. In its pages may be found, admirably reproduced in half-tone, examples of the recent work of many of the most famous photographers of today.

WILSON'S PHOTOGRAPHIC MAGAZINE.

EDITED BY EDWARD L. WILSON.
JOHN A. TENNANT, Associate Editor.

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ON THE GROUND-GLASS.

CONVENTION preparations and convention proceedings almost wholly cover the surface of *The Ground-Glass* at the present time. All these are good and will do good; but it is a very serious question whether or not our fraternity is obtaining as much permanent good from them as it should for the amount of effort and money expended.

It seems to *The Ground-Glass* that there is a great deal of waste—wanton and even wicked waste—going on. Good is being done, it is true; but, as has been said, it is not lasting good; we are simply fertilizing. We are not cultivating the best interests of our art in the best manner; we are not working systematically, thoughtfully. We are planting trees each year, but we do not keep "digging about them" for future growth, or care enough about the fruit that should be expected from them.

We have not a great end in view—*the* great end in view, *i. e.*, the upbuilding of our art as a great helper and power in the world's work. What is "a church without a bishop, or a state without a king?" What noble art or industry is there (except photography) which does not have a centre-head, a Mecca under its support and as its chief motive?

Why not go without some of the privileges and pleasures had at our conventions for a few years, and save the money they cost for the upbuilding of a head-centre? From this we should be able to give out more, and it would become a favorite place for giving in—all for the glory and honor of our art. Doubtless the manufacturers and merchants who give so lavishly now for the wasteful and thoughtless management of our affairs would favor this idea. With their help, and a little independence, coupled with the necessary self-denial on the part of the craft, the founding and endowment of a photographic head-quarters could be easily accomplished. What a benefit would accrue to our art!

Gentlemen of our conventions, this is no new idea. It has often been broached at our National Conventions. It was started at the very first one. At the National Photographic Convention held in Philadelphia, December 1 and 2, 1868, Mr. Edward L. Wilson read a letter from Mr. D. R. Alden, of Oberlin, Ohio, directed to the Secretary of the Association, as follows:

"OBERLIN, Ohio, November 30, 1868.

"Mr. E. L. WILSON, Phila., Pa.:

"DEAR SIR: I find it impossible, owing to the near approach of the holidays, and the consequent pressure

of business, to come to your meeting, although I heartily sympathize with the movement.

"I should be very much obliged to you, however, if a proper opportunity should occur, to present through you to the Convention the following proposition:

"That, after permanent organization, measures be taken looking to the establishment, as soon as practicable, of a Model and Experimental Photographic Gallery and Exhibition Hall, located as nearly central, in the United States, as may be, without sacrificing too many other advantages, and to be owned and controlled by the National Association. Some of the principal objects of such an institution would be the experimenting upon and testing of any new process or novel invention that promises to be of utility to the craft, and by employés and operators of great experience and skill; having the studio open at all times to members of the Association, either by correspondence or personal inspection (under proper regulations); to raise the standard of excellence in the profession; to encourage photographers to join the Association; to furnish a central point for the business operations of the Association; and for exhibition, and, perhaps, disposal of productions of the photographic art that may be of interest to the public or the fraternity.

"The results of all experiments, of any importance, should be published from time to time, either in one of the photographic journals or in a periodical issued by the Association.

"The establishment could be made partially, or wholly, self-supporting, by working for the public, or the craft, or for both.

"Such an institution would enable the Association to thoroughly test any patented improvement which might be offered, through it, to the photographic public, thereby protecting its members from or against the swindling operations of unprincipled process peddlers. This would save an immense amount of time, trouble, and money to photographers, probably more than enough to pay the expense of the concern.

"Should this proposal be acted upon, I would suggest that a committee be chosen to mature a plan, select a location, etc.

"Very truly yours,
"D. R. ALDEN."

On motion of Mr. Bendann, the communication was received and laid on the table for future reference.

This very important matter has been allowed to remain where the motion of Mr. Bendann caused it to be placed. Should it not now be taken up by all of our State and National Conventions, search-lights thrown upon it from every direction, and some earnest business done in the matter of reconsideration?

The Ground-Glass most earnestly believes that every photographer who is worthy of the name has some desire to become a master in his art. Why, then, this continued atrophy? What better time than now to rise from it? Come up higher.

Take this thought with you: "It has been said that humanity might be divided into two great, significantly diverse, classes—those over whom life has obtained mastery, and those who have obtained mastery over life. In the first class belong conformists of every kind — time-servers, moral and intellectual compromisers, hypocrites, and, in a word, the great mass of those who yield to the time-spirit and the tendency to moral degradation which is inherent in the race. The second class is of nobler sort —men who stand upon the bed-rock of noble ideals, fundamental principles, and unshaken purpose; men who resist the drift of that backward-flowing current that has always paralleled the stream of moral as well as physical evolution; self-conquerors, despisers of expediency, scorners of falsehood; men who rise head and shoulders above their environment, and command it. These are they who have obtained the mastery of life—the greatest and grandest and most eternally satisfying achievement of which the human race is capable."

A Photo-micrographic Laboratory. The Royal College of Physicians, Edinburgh, has spent fifty thousand dollars in providing and equipping a research laboratory, which includes a complete department for photo-micrography. The laboratory is open to all who desire to prosecute original investigations, on the production of evidence of their ability to bring the work undertaken to a successful conclusion.

A PERSONAL WORD TO OUR SUBSCRIBERS.

DURING the present month a great many of the subscriptions to the MAGAZINE expire. As the majority of our readers renew their subscriptions from year to year, it has long been our custom on the expiration of a subscription to send a bill for the ensuing year. On receipt of such a bill the subscriber is expected to remit for the period of time for which he desires his subscription renewed, or to notify the publisher of his intention in the matter.

Subscribers, therefore, who receive a bill for the renewal of their subscription will confer a personal favor by responding as promptly as possible. This will not only facilitate our work, which is always heavy at this season, but will insure that the subscriber will receive all the numbers of the MAGAZINE regularly as published. Several of the recent numbers of the MAGAZINE have quickly gone out of print, and the demand for copies increases month by month. Hence we cannot guarantee regular service except to those whose subscriptions are prepaid, such subscribers naturally receiving our first care and attention.

Knowing from experience in attempting to buy back copies after publication that our subscribers value the MAGAZINE and preserve their copies for reference, we suggest that all who are awake to their own interest should promptly renew their subscriptions, and so keep their file of the MAGAZINE complete.

A special offer to old and new subscribers is printed in our advertisement pages and is worth attention. It cannot be renewed. Subscription price to any address in the United States, Canada, and Mexico, $3 per year, post-free; $1.50 for six months; trial subscription, four months, $1, post-free. Subscription to any foreign country, $3.50 per year, post-free. Do not overlook the special offer.

SOME PECULIARITIES OF VELOX PAPER.

BY DR. LEO BAEKELAND.

MOST of those who try Velox paper for the first time are either very enthusiastic or very disappointed with their results. Many photographers have declared, without hesitation, that this paper is about the easiest and simplest to handle of all within their knowledge. Others have said just as emphatically that, during their forty or fifty years of experience, Velox was the only paper they had not been able to handle successfully. Why should there be such a great disparity between these opinions? How is it that a paper which is declared worthless by one photographer should give good results in the hands of his neighbor who may, perhaps, be even less skilful than he? Simply because Velox paper has some peculiarities of behavior which have to be taken into consideration in its manipulation, and which make it somewhat different to other printing papers.

First of all, it requires a strong and unoxidized developer. If the developing solution is too weak or has become oxidized by contact with the air, it is impossible to obtain anything but greenish-blacks. A developer may be strong enough for dry plates or ordinary bromide paper and yet quite unsuitable for Velox paper. In order to prevent oxidation the stock solution of developer should always be kept in small bottles well stoppered and filled to the

neck. Another important point is the amount of bromide of potassium which should be added to the developer. Almost any developer used for Velox will require the addition of more or less bromide. Without this it is almost impossible to obtain pure, clear whites. The addition of a very few drops of a bromide solution to the developer has a most surprising effect. Without this modification it may happen that nothing but "foggy" and "muddy" looking prints will be obtained. The results become at once satisfactory as soon as the required amount of bromide is added. Here, also, it may happen that a developer which works satisfactorily for dry plates does not suit Velox paper. In regard to the amount of bromide to be added, it is desirable to use as little as possible, because this restrainer, when added in excess, has, of itself, a tendency to produce greenish-blacks. The general rule should be: Make your developer strong, and add to it just enough bromide to prevent "fog;" afterward, if you see that the developer can stand it, dilute with water, but do not dilute too much, otherwise you will obtain greenish-blacks.

These rules seem rather indefinite, but in practice they are exceedingly simple. For instance, one or two ounces of developer are diluted with an equal quantity of water, a few drops of a 10 per cent. bromide solution are added, and a test-print is made. It almost always happens that everything is right. If, however, the whites appear "foggy," a little more bromide should be added; if, on the contrary, the whites are clear but the blacks have a greenish tinge, then more concentrated stock developer should be added to the mixture. These preliminary tests can be made with small strips of paper about one inch wide, and take very little time. They insure successful manipulation. They give you a definite idea how to make up the developer, without hesitation, for all future prints which are to be developed with the same stock solution.

The remark has often been made that it would be much simpler to state exactly the amount of bromide to be used with a certain amount of developer. Unfortunately, a general rule of the kind giving the exact amount of bromide cannot be given, for the following reason: The amount of bromide to be used depends upon many conditions; for instance, a weak or oxidized developer will stand less bromide than a fresh and strong one. If the weather is hot, more bromide is required. Glossy Velox paper requires more bromide and a more constant developer than Carbon Velox. The purity of the chemicals used is also of great importance. Very pure sulphite or very pure carbonate always requires more bromide than less pure chemicals, which contain either sulphates or chlorides, these impurities of themselves acting as restrainers. I know of one case, in a city where the water contained a large amount of chlorides, where it was impossible to obtain anything but greenish tones with a developer of normal strength, while rain-water gave very satisfactory results under the same conditions.

Notwithstanding all this it is a curious fact that almost any kind of water, no matter how muddy and impure it may appear, will sometimes give satisfactory results with Velox if the concentration of the developer and the amount of bromide are arranged accordingly. Another fact which amazes the beginner is the great rapidity with which prints appear in development. Being accustomed to the slower development of dry plates, the beginner at once proceeds to dilute or to restrain his developer accordingly, and by doing so falls into the error of producing greenish-blacks. The image *should* appear quickly—that is to say, it should acquire the necessary strength in a few seconds, which allow ample time for examining the

print and transferring it to the hypo-bath. It is useless and even harmful to wash the prints after development, because by so doing development goes on, and as the developer which clings to the paper is now more diluted, and consequently will give another tone, unpleasant results will be produced. Neither is it necessary to use an acidified "short-stop." Better use strong hypo-alum and sulphite fixing-bath rendered decidedly acid. Such a bath acts at the same time as a short-stop, as a fixing-bath, and as a hardener. This way of proceeding simplifies all operations enormously; and if the fixing-bath is strong enough, it can be used repeatedly for weeks in succession, always providing it contains enough hypo to keep up its fixing qualities. By adding occasionally some acetic acid to this bath its acid-reaction will be maintained. If the bath becomes alkaline, the prints are liable to go on developing when put into it. As long as the hypo-bath is cold it matters little whether prints remain in it for five minutes, half an hour, or longer. In summer-time, however, when the hypo is warmer, it is not safe to leave the prints in the bath more than ten or fifteen minutes; a longer stay in this warm fixing-bath may turn them to a brownish color. The glossy Velox has another peculiarity in common with enamelled bromide paper. I refer to what is generally known as "surface-stains." This subject was fully discussed in the September (1896) number of this MAGAZINE, page 388. "Surface-stains" are the result of pressure or friction on glossy papers. They are more liable to occur when the paper is very dry, and as manufacturers of photographic papers usually try to make their products as dry as possible, so as to improve their general qualities, and particularly their keeping qualities, it is also natural that glossy developing paper should show these surface-markings. It has been shown that the slightest pressure or friction may cause them to appear—for instance, when folding or handling the paper. But nothing is simpler than to remove these after the print is dry and finished. A few seconds' rubbing of the surface with a tuft of cotton dipped in wood-alcohol will completely remove them. The best method of treatment is to place the dry prints on a glass plate or other smooth surface, and to clean them in the manner indicated.

LABORATORY OF THE NEPERA CHEMICAL CO.,
Nepera Park, N. Y.

PORTRAITURE VERSUS GENERAL PHOTOGRAPHY.

BY THOMAS AQUINAS.

PROFESSIONAL photography grows apace, and as the roots spread over new fields of usefulness some very interesting questions arise for the consideration of the progressive worker. Among these is that which concerns the specialist *versus* the all-around workman. Formerly this question was interesting chiefly in its relation to the employé; now it has reached the master photographer. In its new form it may be stated: Will the skilled photographer benefit most by devoting himself to portraiture or another single specialty, or by engaging in the general run of photographic work?

The discussion of the question is raised in an article on "The Passing of the Portraitist," contributed by John A. Randall to the *British Journal of Photography*. He says, in part:

"For many years the art photographer—who in practice means the portraitist—has held the field, being both in number and influence the predominant power. Thus the ethics and ideals of the portraitist have prevailed, these being modelled upon

the customs and traditions of modern and bygone schools of art. The photographer was to be primarily an artist, producing works of art, having for his guides and masters men of the stamp of Rejlander, Adam Salomon, and H. P. Robinson; persons who did not work in this spirit, and with the same high ideals before them as these masters held in their day, had no claim to the name of photographer. The only photography was the pictorial photography.

"But whilst the majority of photographers have been holding these opinions, and reducing them to practice according to individual ability, events have been rapidly progressing around them, they, meanwhile, remaining intellectually at a standstill. The portraitist, clinging to his artistic ideal, has been left stranded, and is out of touch with the more recent advances of commercial photography. Ten years ago the artistic view of photography was the prevalent one, being applicable to the then existing body of photographers; since then an entirely new class of men has arisen, to whom the former ideals and artistic aspirations are unintelligible, because they have no direct application to their work. This class the portraitist ignores, keeping strictly apart from its ways of business, and not recognizing its photographic character. The older societies and institutions take little notice of the dry-plate maker, the trade printer, the bromide enlarger, the lanternist, the view publisher, the provider of photographs for advertisements, Christmas cards, etc., the process operator, the process block-maker, the manufacturers of photographic materials, the more recent additions—the x-ray operator, the kinetographist, the three-color process workers, and many others in minor branches of photographic work. The ideals of the portraitist cannot be applied to workers of this description, yet this class is rapidly growing, and perhaps even now equals in wealth, and will certainly soon outnumber, the artistic photographers.

. . . .

"In every direction we see growth, it being evident that in the near future portraiture will no longer be the leading interest in photography. In absolute amount of work required there will, of course, be no decline, the change being merely one of relative importance. It is hardly possible at this date for portraiture to die out. The policy of limitation has done some harm in the past, photographers having clung too long to the belief that artistic portraiture is the only legitimate and profitable application of photography. How far this opinion has stood in the way of the commercial prosperity of photographers as a body I shall not pause to inquire; one thing, however, is certain, the artistic ideal has not prevented the growth of a purely utilitarian photography. Had a more liberal view been taken of the profession in the past, we might now see the photographer engaging the process worker instead of the process worker engaging the photographic operator. Process work would then have been rightly regarded as a branch of photography, and not, as now, a branch of printing. The evolution of the process worker is not yet complete; with the cheapening of production there will be every inducement for him to supply ink portraits of large size to private individuals, and thus enter into direct competition with photographers. This would mean a loss not easily recovered.

"From whatever side the question is looked at, it appears that the portraitist can no longer be regarded as the ruler of the photographic world; it only remains for him to decide whether he shall throw in his lot with the numerous other workers, or form a small clique having artistic aims and no pronounced commercial policy. To me it seems certain that in future pho-

tographic processes will come into use for the greater part of black-and-white illustration, and that three-color photographic work will supplant much of the cheap color work which is now done. Direct negatives will also be much in demand, this of necessity meaning the want of men who can produce artistic work with the camera. In such work the very best of artistic photographers will find employment, and so identify their interests with the most prosperous section of photography. Even now some of the leading portraitists are extending business in this direction, producing art studies and composition pictures fit for mechanical reproduction. By turning his attention to similar work, the portraitist might extend his business, and come within the scope of progressive photography. If this is not done, a class is sure to arise who will make a specialty of the work and render competition hopeless.

"Those who reject these minor branches, and hope to depend solely on portraiture, will be compelled by circumstances to form themselves into a strong combination to prevent the overcrowding and severe competition which otherwise they must encounter."

For my own part, I must beg to differ with Mr. Randall in his solution of the question. The "policy of limitation," as far as experience goes, is more likely to produce good than evil results, when applied at the right time and in the right place. Photography is too widespread in its applications in the arts and industries for any man or combination to attempt to keep the specialist out by undertaking to do it all.

There is abundant room for both, and success for all who recognize their proper places and adequately fill them. The irresistible tendency of the times in every sphere of activity is toward specialization, but as yet there is no sign of lack of working-room for the all-around man. Therefore, to my mind, the solution of the question in every instance is found in the man and his location. There will always be places where the specialist—portraitist, commercial photographer, radiographer, or any other—may easily find success while his all-around co-worker will starve. And, in like manner, there will always be localities where only the all-around photographer can exist or succeed.

We can see this demonstrated in the existing condition of things. In the large cities, where the diversified applications of photography find ample field for business, the greater part of the general photographers grapple with a succession of difficulties in trying to win success. Cut rates and low prices appear to provide the only means by which business can be kept moving. On the other hand, those who are prominent in this or that specialty, famous as portraitists or commercial photographers, are generally successful. To this rule there is only one exception, that of the old-established firm, with abundant capital and equipment, able to take up and cultivate all profitable classes of work under one roof, and at the end of the year, by organization and co-operation of its departments, to insure a favorable balance on its books.

Turning to the smaller cities we see the other side of the question. The field is restricted, its opportunities less abundant, and competition less intense. In such a locality the specialist can hardly hope to succeed, simply because the place cannot supply the demand equal to his capacities. On the other hand, the experienced photographer equipped for general work can find sufficient to keep his establishment busy. One thing fits into another; the occasional demand for commercial work compensates for the lack in the demand for portraiture, and so forth.

So much for locality. What about the

man? Here again it is a matter of natural selection. The balance of trade is almost invariably in the favor of those who can produce the best work, and the best work is produced by the men most completely fitted for it. In photography, for instance, some men are naturally cut out for portraiture, others for commercial work, others again for manufacturing. We have all known men who failed in portraiture, but succeeded in photographing live-stock, shipping, or some other specialty.

What, then, is the practical conclusion of one's thought of these things? Let the young photographer about to begin in business investigate his capabilities and the proposed location of his business to see whether success lies in the specialty or all-around work. Let the unsuccessful specialist or general photographer review his failures, and, recalling the growth of his profession, consider whether his is not a case of trying to make a square peg fit a round hole.

PANORAMIC PHOTOGRAPHY.

BY FRANKLIN A. NIMS.

THE practice of making a series of two or more negatives of a scene and printing them so as to make a continuous picture, with the appearance of having been made from one negative, is of comparatively recent date in America—that is, twelve or fifteen years. Mr. W. H. Jackson, of Denver, Colorado, is the pioneer in this branch, and probably to him more credit is due than to any other person for having brought this style of work to its present perfection.

The *modus operandi*, in detail, is as follows:

SELECTION OF SUBJECT.

Take a position from which the whole view cannot be included on one negative, with the sun over the right or left shoulder if possible; in any event do not let the lens point toward the sun so as to require it to be shaded from the direct rays. A cloudless day should be chosen, because clouds shift their position before the series of negatives can be made, which interferes with their proper matching in printing. Should clouds appear, however, the sky must be masked out before printing. Also avoid a windy day. Never attempt to make a panorama with horizontal lines across the view, as a railroad, for instance, or the broadside of a bridge, because you thereby describe a section of a circle, and the result will be curved lines in the picture. The more negatives required, the worse the effect will be. They may be introduced on an angle vanishing in the distance. Until experienced in this line of work do not attempt to have moving objects appear, and when they do, endeavor to have them far enough from the ends of each plate so as not to interfere in the printing of the next plate.

INSTRUMENTS.

A standard view camera of any popular make. A strong, rigid, and substantial box (whatever size of plate is to be used) is much more desirable than a light, flimsy affair. A lens that will fully cover the plate, of medium angle and focus, tending more toward long than to short focus, and when occasion will permit a lens that will cover the plate fairly sharp without a diaphragm. A 10 x 12 or even an 11 x 14 lens will be found most suitable for an 8 x 10 plate. Select a good solidly built tripod. Use slow plates (23 sensitometer), and either a sure working time-shutter or the hand for exposures. When the view in-

cludes a waterfall, a train of cars moving at full speed, or other fast-moving objects, then use quick plates and give instantaneous exposures. Place the tripod firmly and level it properly with a spirit-level.

MAKING THE EXPOSURES.

As a rule, it will be advantageous to begin at the right-hand end of the view, although one has to judge of this, according to the view in question, the light, and the time of day. If the shadows are plenty deep enough and coming toward you, then begin at the right-hand end of the scene, this is to avoid a preponderance of shadow; if, on the contrary, the shadows are travelling from you, begin at the left-hand end. Rule the ground-glass in pencil one inch from the edges, and mark the centre of the glass also. When you have focussed for your first negative, make tight the camera-screw through the tripod head, insert the proper diaphragm. This depends largely upon the subject at hand and the lighting, in conjunction with the other negatives to be made in the series, for no exact rule can be laid down, nor can the time of exposure be indicated. I will state right here that, if a vast scope of territory is to be included in the picture, one or both ends are likely to be at right-angles from the centre section, hence one can readily see that the same exposure cannot be given to each negative, for one or more will be in the full sunlight, while the others will have more or less shadow. In my own practice I often use different diaphragms and exposures in a set of negatives accordingly as necessities require. *Note well* the object through which the pencilled line on the ground-glass passes, whether at right or left in the direction you are working. We will assume for convenience sake in this article that we are working from right to left.

After the first exposure, withdraw the plate-holder, loosen the tripod screw, and turn the camera to the left until the object through which the left-hand line on the ground-glass passed in the preceding negative comes in position for the right-hand line to pass through, taking care that the camera is always perfectly level; focus and tighten the tripod screw again, also noting what object the left-hand line passes through, insert the proper diaphragm, and again expose. The same care, precaution, and attention are needed for each negative, whether two or a dozen are taken to constitute the picture, and, with these, success may be obtained. Remember that the position of the tripod must not be changed, as all the negatives are made from one point; neither must one of the legs of the tripod be allowed to move, hence it is essential that it be solidly planted in the beginning.

DEVELOPING THE NEGATIVES.

Seriously, I prefer "pyro," and I believe nearly all (there are about a dozen in this country) who successfully make panoramic photographs use it. Better and more uniform results can be obtained with pyro than from any other developer. Necessarily, intelligent and judicious handling must be employed, for here we have, say, a set of six negatives to be printed upon one continuous strip of paper, each negative taken from a different point of the compass, possibly with different-sized diaphragms, and with different lengths of exposure. What is needed is to get all the negatives as near the same printing density as possible; this is best done by developing each negative separately, although I sometimes develop several in one dish at the same time.[1]

PRELIMINARY PREPARATIONS FOR PRINTING.

The universal practice of dodging, etc.,

[1] [The method of development employed by Mr. Nims may be found at page 570 of our December, 1896, MAGAZINE.—ED. W. P. M.]

in preparing and touching up negatives for printing, viz., ground-glass substitute, color, etching, etc., is generally known to photographers. It is, therefore, not necessary to go into details and explanations in this article. Whatever treatment will improve a single negative, if occasion require, will apply equally well to a set of panoramic negatives. If the name of subject, photographer, or anything else is desired visible upon the finished picture, place the negative in the retouching frame, film side up, make two parallel lines with a medium soft lead-pencil where the wording is to appear (which should be near the bottom of the negative). Do not make the title matter too large and prominent, a neat small letter is preferable. Take a pen and American drawing ink or India ink, begin at the right hand and work toward the left, making the letters reversed. This is easily accomplished with a little practice. If inexperienced, print your copy on thin paper, then turn it over, and reproduce it as you have it reversed.

MATCHING THE NEGATIVES.

We will suppose we have a set of five negatives, the size is immaterial. Place No. 1, with the film side up, on the glass table (which will be described under the head of printing); this will be the right-hand negative of the series. Take No. 2 and lay it on top of No. 1. Move No. 2 until the left-hand end of it exactly covers the same part on the right-hand end of No. 1. If you have carefully followed the directions for making the negatives, you will find the object through which the pencilled line on the ground-glass passed to be one inch from each end of both negatives. With the point of a knife, or any sharp instrument, scratch through the film at top and bottom of each negative a line one-half of an inch long, the purpose of which will be observed later on. Take No. 3, and match in the same manner to the right-hand end of No. 2, scratching a line as before. This do with Nos. 4 and 5, and the set of negatives are ready for printing.

PRINTING.

The advent of ready sensitized print-out papers, obtainable in rolls of several yards in length—usually of ten yards—is a great boon to photographers for this class of work, as it was very expensive and troublesome to have the large tray and silver bath, required to sensitize a long sheet of albumen paper for the purpose, especially in warm weather. Now, however, no matter what time of the year, one can start his panoramic picture, print from one or more

WINDOW AND BENCH ARRANGED FOR PANORAMIC WORK.

A. Lower half of window left unobscured.
B. Glass top of bench.
C, C. White screens.
D. Upper part of window above bench, obscured.

negatives, and, if desirable, leave the balance for several days or weeks. I have one or two now on hand that were printed early in September which I have not yet toned. At a window in the printing-room erect a bench of convenient height, making the top of glass. Screen the light above the bench with any opaque material. Fix a white screen from the outside edge of the

bench to the bottom of the window for a reflector and drape all around with dark material. In other words, make a temporary dark-room about the glass-topped bench so that the only light entering will come up through the glass top of the bench.

Having cut your paper to the required size, place negative No. 1 in the printing-frame, put the paper on, roll up the surplus of the right-hand end, and put the roll in the box at the end of the printing-frame. Now spring the back in position and turn the frame face up; fasten the edge of the vignetter so that it comes on the lines scratched on the negative at top and bottom; adjust the tissue-paper screen and set out to print, taking care that it is *square* with the sun, and *keep it so* during the printing. It is necessary to print under tissue and in direct sun. In examining the print always take it inside, remove the tissue frame, and examine only *one end* at a time. *Never* remove the whole back from the frame until the print is done. When the print on No. 1 is finished, place negative No. 2 in the frame; with a pin or needle punch a hole in the black lines at the top and bottom of the print from the scratches on the negative heretofore mentioned. Adjust the paper to No. 2. Should the tiny holes not come exactly over the scratches on No. 2 pay no attention to them here, but accurately adjust the printed object (vignetted edge) to the same object on No. 2. Right here we will caution the printer to have the line of horizon to absolutely match regardless of anything else. Spring the back into its place, and now we have a roll of paper in the little box at each end of the frame—one end printed, the other end plain. Turn the frame face up and adjust the vignetters at right- and left-hand ends. If by chance the tiny holes made should not match the scratches on left end of the negative, adjust this vignetter to the line on the print, whether it be to right or left of the lines on negative, either top or bottom, or both. Here is one of the essential details of successful panoramic printing. If the vignetter is too far forward it will cause a white line on the print, if too far back it will cause a black line. Another thing to remember is: do not set the frame out to print without putting the tissue screen on, and then always keep it in the direct line of the sun. The printer will soon find out that he cannot run many frames at once and attend to them properly—either of panoramic or single prints—for this kind of work requires the closest attention. If one section is too light or too dark the whole picture will be spoiled. If one is capable of attending to more than one print, and has frames enough, several pictures of the same subject can be carried on at the same time by starting both ends of the set of negatives. Or, after the first of a series is printed, start a fresh strip of paper in another frame. The balance of the negatives are printed in the same manner and with the same care.

When the negatives print too far under the vignetter, a little cotton should be put under the vignetter; this will soften the edge. If it is found, when the print is completed, that, in joining the sections, there is either a slight dark or white line, they can be "doctored" up before toning. The after-manipulations of toning, fixing, and finishing are the same as for small single prints, using dishes sufficiently large enough for the print to lay flat in, although I have successfully toned pictures 100 inches in length, made from 18 x 22 negatives, in a dish only 64 inches long.

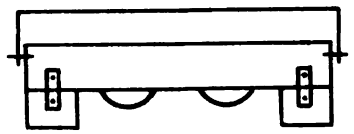
THE PRINTING-FRAME.

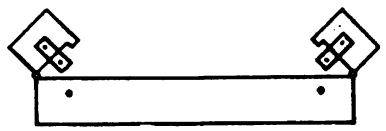
Take an ordinary frame, remove the ends, and make new side pieces six inches longer than the original ones, then join together; the old back can be utilized (only a back that opens in the centre can be used) by filling the three-inch space at each end of the back with a thin piece of

wood. Make a box of thin wood two inches deep and as long as the frame is wide, and fasten it with hinges to the end of the back of the frame. The front lower edge should be rabbeted, so that when closed it will make a practically light-tight joint at the end of the back. On one end of the box fasten a piece of spring brass, let the end project below the edge, make a small hole in the end, drive a small brad or pin into the side of the frame. When the box is closed the pin catches the brass and holds it there, thus preventing the box from flying open. This box is for the purpose of holding the roll of paper before and after printing. Of course it will be understood that a box is necessary on each end of the printing-frame. To make it doubly secure from light these boxes should be lined with an opaque material; a strip of black paper should also be placed over the ends of the negative. The vignetter can be a strip of cardboard, thin wood, or brass, which is held in place by pieces of spring brass fastened to the top of the frame, and under one end the vignetter is slipped.

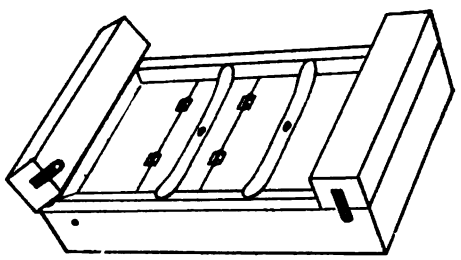
A frame is made the size of the top face of the printing-frame, with an edge all around about two inches deep. Cover this frame with two thicknesses of the very best tissue paper. Fasten a piece of spring brass on each end of this frame, sufficiently long enough to hold the tissue about an inch or an inch and a half above the negative, when it is sprung on to pins driven into the ends of the printing-frame. The frame is shown in the accompanying cuts.

The changing of the negatives is done in the little dark-room described above, thus allowing the light to come through the negative, allowing the printer ample opportunity to adjust the print properly.





SIDE VIEWS OF PANORAMIC PRINTING-FRAME WITH VIGNETTING ATTACHMENT AND WITHOUT IT.



PRINTING-FRAME FOR PANORAMIC PICTURES.

The line or point of juncture between the sections can run through a building as well as any other object, in fact better there than through a tree, and is best done on the corner or along the sides of windows or columns. In the case of a public building the joining may run through the dome. With some subjects it is necessary to have the joining inside of the pencilled line on the ground-glass; but never let it go outside of it, or you will have trouble in printing. If you have not the requisite density in your negative you will also have trouble—over-density is preferred to under-density, the difference being in length of time in printing only.

ORTHOCHROMATIC PLATES IN PORTRAITURE.

THE subjoined letter, relating to the value of orthochromatic plates in portraiture, will doubtless prove interesting to our professional readers. It presents an opinion derived from a fairly complete series of experiments undertaken for di-

rectly practical purposes, and, to our knowledge, carried through with intelligent carefulness. There must be something to be said on the other side of the question. We will be pleased to publish the opinions of workers on either side.

"DEAR MR. WILSON: Replying to your letter asking me for the results of my experiments with orthochromatic plates, I cannot at this writing go into the details of my work, nor can I undertake to furnish you with the inevitable pictorial demonstrations, but will briefly describe the actual results obtained. It should be clearly understood that I have been looking into the value of orthochromatic plates solely in their relation to portraiture. The fact is to be deplored that investigators and writers on this subject have been so persistently neglectful in the matter of distinct specification of the purpose for which these plates were supposed to be used.

"As a matter of course, tests were made with life-subjects, and were comparative, the best makes of orthochromatic plates being pitted against the best plain plates. No screens were used, as the makers claim that good results can be produced without them. The time of exposure was, in all cases, 'full.'

"It being generally conceded that the up-to date portraitist uses the quickest plate possessing the necessary qualities of clearness and vigor that the market affords, those orthochromatic plates designated as 'slow' did not fall within the scope of my investigation. To portrait photographers who even to this day (I understand there are such) fail to realize the true value of a quick plate, I will simply say, *en passant*, that not only is the danger of movement in difficult poses lessened in proportion to the duration of the exposure, but it enables the clever and observant operator to 'snap' on to his plate some pleasing, and often delightful, expression which may flit across the countenance of even the most self-conscious of sitters.

"Giving this circumstance its due weight, it was natural that my first tests were with rapid orthochromatic plates. I will say at once that I found their orthochromatic qualities were not in evidence upon the resultant negatives. Prints made from the negatives were shown to a number of good judges, and in a slight majority of cases the preference was given to the prints made from the 'plain' plates. I myself feel it was about a tie as regards quality, with the advantage, however, for the plain plate, inasmuch as I could afford myself a fuller developing light with the latter. I consider the value of quick orthochromatic plates *nil* for portraiture, if not, indeed, a handicap on account of the more difficult dark-room manipulation.

"Taking up now the orthochromatic plates of 'medium' speed, I again found the same lack of favorable results. I confess to being somewhat surprised at this, and by way of verification I spent a couple of days with my colored papers. I found that it is chiefly the greens that are more truly rendered by the use of orthochromatic plates (of course not specially orthochromatized to other colors). The serious portrait artist, however, will hardly care to exchange rapidity and facility of dark-room handling for a slightly better rendition of green draperies, except in isolated cases.

"When it is necessary to cut down the developing light 50 per cent., often thereby jeopardizing good skylight work, not to mention the inordinate strain on the eyes, one naturally asks for a substantial *quid pro quo*. To state the results of my experiments succinctly: I have found that the quick and medium orthochromatic plates regularly on sale do not possess the qualities from which they derive their name to a degree material to the portraitist, and when I look over my negatives I

cannot help feeling that the orthochromatic qualities of these two classes of plates (unappreciated by professional workers) exist chiefly in the minds of their makers and on the tongues of their respective demonstrators. Yours sincerely,

"A. E. JOHNSTONE.

"Office of the Automatic Photograph Co., N. Y."

"MOSAICS" AND A DEVELOPER.

BY E. M. ESTABROOKE.

I HAVE just completed my first reading of *Mosaics*, 1897. It seems to me, as an old reader of this favorite year-book, more than usually replete with useful and valuable formulas, hints, etc., which are directly applicable to ordinary every-day work in the photographic studio. There can be scarcely a photographer in this broad land that would not be greatly benefited by its purchase and perusal.

I am more particularly interested in developing formulas, being convinced that in the making of the negative lies the crucial point in artistic and commercial photography. Therefore I am always trying to keep up with the new ideas in the development of dry plates, and in that line I find *Mosaics* particularly rich in suggestion. I also have made some researches in developers, and, among the large numbers of reagents or oxidizers with which my experiments have made me acquainted, I find none of which there is so little mention in the journals as that of paramidophenol, which is the basis of the popular rodinal.

I have worked out a formula for paramidophenol in combination with hydrochinon, which I think will do a little better work than any combination I have ever tried. I give the formula for the benefit of the readers of your MAGAZINE, and hope that all who give it a trial will find it as satisfactory as it has proved in my experience:

No. 1.—Hydrochinon . . 1 ounce.
Paramidophenol . . ¼ "

Dissolve in one quart of saturated solution of sulphite of soda.

No. 2.—Hydrate of soda . . 2 ounces.
Water . . . . ½ gallon.

To use: Take of No. 1 one drachm, of No. 2 two ounces; larger quantities in the same proportions.

This developer is cleanly, will not stain fingers or plates, is very energetic, and will bring out a better balance of printing quality from undertimed plates than any formula that I have yet used. It can also be used until exhausted with unvarying results regardless of its color.

NEWS AND NOTES.

Acetylene. One of the disputed questions of the day, says Dogberry in the *British Journal of Photography*, seems to be the safety or otherwise of acetylene. Either side can be taken according to the point of view of the observer. Thus let us take it that it is safe—"as safe as ordinary gas," as one writer says. So in the abstract it is, when all is right and you know perfectly well what you are doing. But it has to be borne in mind that acetylene gas is "made on the premises," while ordinary gas is manufactured by experts in properly constructed works, and "laid on" or supplied in a comparatively harmless form to the consumer. What would be the probable state of affairs if ordinary gas were made in the kitchen fireplace and carried about the house in a portable gasometer? Oxygen, again, is perfectly safe

under proper conditions, yet how many fatal accidents have occurred in the manufacture and use of that gas.

As I say, acetylene may be perfectly safe and harmless under proper conditions and when the generating apparatus is thoroughly understood and in perfect order. But no earthly power can guarantee that the apparatus will always keep in order, any more than that an oxygen retort or a gas-cylinder will not sometimes explode with disastrous results. It is not the acetylene alone that is dangerous; it seems to me that the calcium carbide is most to be feared, and if any hitch occur in the working of the generator, and the gas goes on accumulating under constantly increasing pressure, what is one to do but wait the inevitable? It is all very well to say, as Mr. John Watson does, "Do not experiment for yourselves; follow out the simple instructions given for your benefit." Simple instructions cannot prevent accidents, and the sequence of the same sentence seems to point very distinctly in the direction of danger, for it seems these "instructions" have been arrived at at "the cost of the brave men who have risked and sacrificed their lives for the benefit of science." Doesn't it seem just possible that, if experienced men come to grief occasionally, outsiders may stand a chance of doing the same?

Hand-fed Electric Lamp for Lantern Work. All lanternists will be interested in the illustrated article on this subject which appeared in a recent issue (December 26th) of the *Scientific American.*

Röntgen Rays in Pharmacy. Among the more recent applications of radiography is its usefulness in detecting adulterations in drugs and food-stuffs. In the *Annales de Pharmacie* Dr. Ferdinand Ranwez gives the results of experiments with the x-rays to detect impurities in saffron. The plan adopted was to wrap a gelatino-bromide plate in black paper, place the saffron on this on the same side as the sensitive film, and allow the rays to act for four minutes, afterward developing and fixing in the usual manner. The presence of barium sulphate, potassium nitrate, and similar adulterants may thus be sharply indicated in the resulting radiograph.

An Acetylene Disaster. The *News* mentions that four persons lost their lives by an acetylene explosion at Berlin a few weeks ago. The disaster occurred during some experiments with the new illuminant. It is to be hoped that we will be able to get at the details of the explosion. According to those who regard acetylene with favor, all the accidents occurring through its use thus far have resulted by carelessness or ignorance on their part.

Later advices seem to indicate that the explosion resulted less from chance or carelessness than from pure ignorance, or, at least, very insufficient knowledge. Mr. Isaac, it appears, had been heard to say that he had liquefied his gas and mixed it with air in the proportion of one to twelve —two particularly risky proceedings. Seven months ago a similar acetylene explosion took place in M. Raoul Pictet's laboratory in Berlin; and a few weeks later another in M. Pictet's laboratory in Paris. Both cases were terribly disastrous, and seven lives were lost.

The Indiana Photographers' Convention will be held in the Masonic Temple, Indianapolis, March 2d to 5th, inclusive. The programme prepared for the meeting includes many instructive and entertaining features, and a profitable gathering is expected. Every Indiana photographer, big or little, should feel it to be his duty to support his State organization. Full particulars can be had from the Secretary, C. R. Reeves, Anderson, Ind.

The Largest Direct Instantaneous View. A writer in the *Photographic News* says that the street view, 20 x 36 inches, by C. C. Langill, of our city, recently given in this MAGAZINE, has been surpassed in size by the views of Sella, the well-known Italian-Alpine amateur. The correction would have been more convincing if figures had supplemented its vagueness.

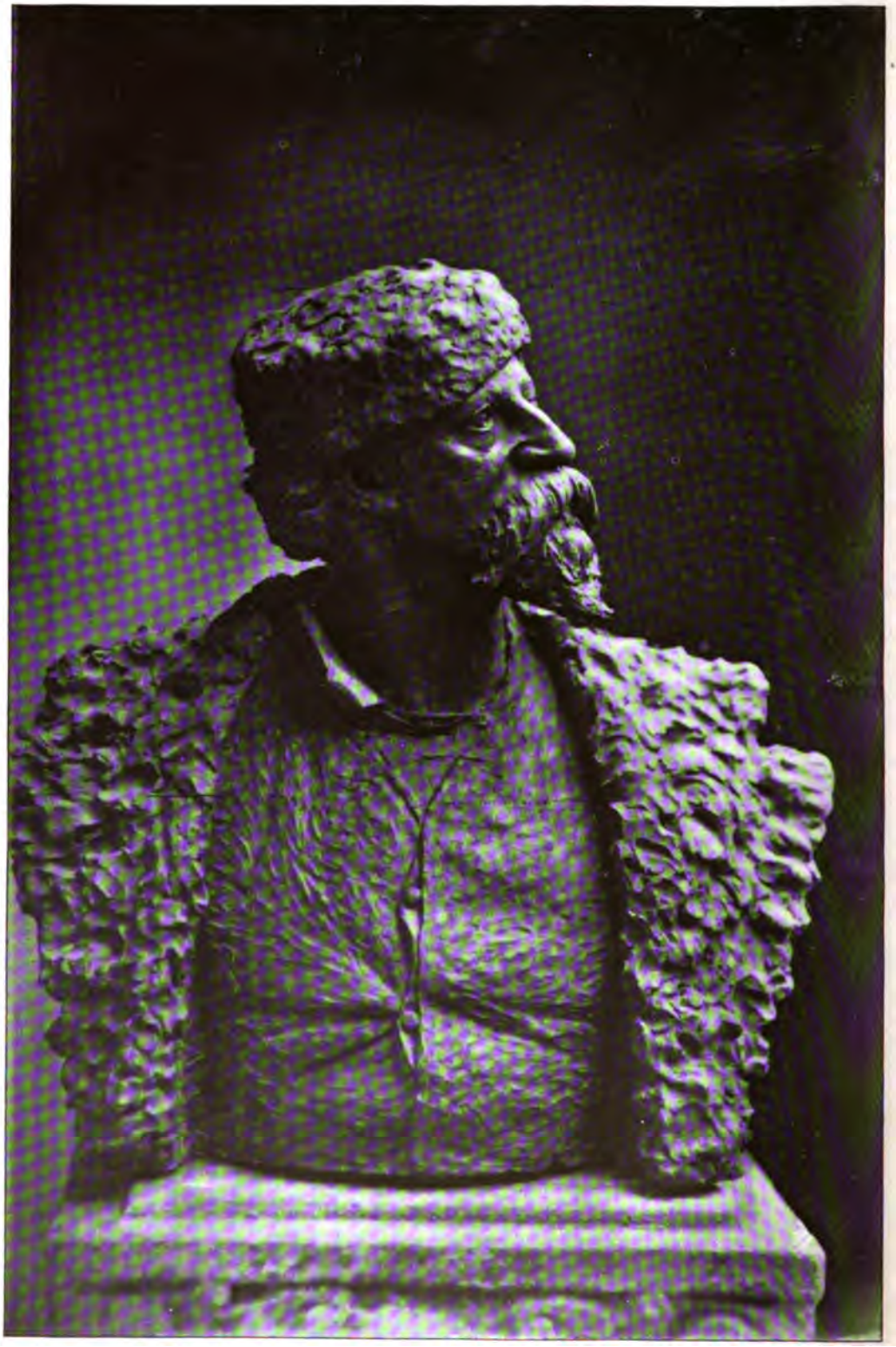
A Reversed Negative. A negative of medium intensity will give an excellent reversal on a gelatino-bromide plate exposed in a printing-frame for three or four seconds in full sunlight, and then developed by a suitable formula. By this means we can produce a very superior negative to the original one. For development, pyrogallic acid is recommended. This very simple method gives reversed negatives for the purpose of photo-mechanical work, as well as for carbons without the double transfer. It is extracted from the *Bulletin of the Havraise Society.* A similar method with development formula is given at page 261 of *Mosaics*, 1897.

Kromskop is the latest photographic addition to the dictionary. It is the new form of the name of Ives's photo-chromoscope. Kromskop exhibitions are now among the daily entertainment features of Great Britain's metropolis, and Mr. Ives is still busily engaged exploiting his instrument and its color possibilities among the British photographic societies.

The Demeny Chrono-photograph is the latest instrument introduced for the making and projection of animated photographs. It is said to be superior in results to any of the machines at present on the market, giving pictures four times as large as those generally seen and with considerably less vibration.

Acetylene. Two studios in Glasgow (Scotland) are equipped with acetylene apparatus for portrait work, and the results thus far are reported as favorable to the new illuminant. The Berlin (Germany) Police Department has issued regulations forbidding the manufacture of acetylene without first notifying the authorities, and receiving their consent after inspection, etc.

Pyro-Metol Developer. At a recent meeting of an English society Mr. T. E. Bullen reported that he had been experimenting with various developers, and had found very extraordinary results from the use of pyrogallic acid and metol in combination. The mixture possessed all the energetic qualities of the metol, and at the same time the density-giving power of the pyro. The tests were made with a Warnerke sensitometer, to which two plates were exposed in the ordinary way. These were developed for ten minutes with a pyro-soda developer, and, at the expiration of this time, washed. He then tried to see whether they would go any further, and to one plate put a fresh pyro-soda developer, while the other was placed in a pyro-metol developer. The former seemed to have attained its utmost, however, and the second treatment had apparently no influence whatever. The second plate, however—that in the pyro-metol solution—developed up four or five more numbers on the scale; and, while the highest tint with the pyro-soda was about twenty, that of the pyro-metol reached twenty-four or twenty-five. Further experiments were made with two plates which were exposed in the same way, and developed, one with pyro-soda and the other with pyro-metol, from the commencement. This latter showed ten numbers and considerable density in the lower numbers before any image was shown by the pyro-soda, but the ultimate result was not so great, the pyro and metol having an advantage of three or four gradations. In reply to a question, he said he judged by the negatives.



NAPOLEON SARONY

From the bust in bronze by D'AMORE, now the property of Benj. J. Falk, Esq.

Sarony

As briefly related in the December number of this MAGAZINE, Napoleon Sarony died at his home in this city during the night of November 8, 1896. He was seventy-three years of age, and active in his profession to the last. During the few hours spent with his family, before retiring for that sleep from which he was not to awaken here, our old friend was unusually bright and chatty. On the morning of the 9th he was found dead in his bed, having succumbed to paralysis.

In these notes upon his life and work we desire to add, among the many tributes from his co-workers, a personal word in loving memory of the father of artistic photography in America and one of the foremost of the world's photographers.

The passing of Sarony marks the close of an important epoch in the history of photographic portraiture, of which he himself was the most notable figure. When he first began his life-work the glories of the Daguerrean period had passed and its traditions were fast being forgotten. Portraiture as an art, with a few bright exceptions here and there, had declined so much that little of honor or repute attached to it. More than any other man Sarony contributed to the changed conditions existing to-day. By his audacious individuality, his enthusiasm in his art, his restless energy, and the power of his work, he infused a new spirit into the fraternity of which the splendid portraiture of the present time is the direct result.

He was born in Quebec, Canada, in 1821, the year that Napoleon I., his namesake, died at St. Helena. His ancestry came from the British, Italian, and French, and his unique individuality was the natural sequence of this inheritance of the race-traits of his several ancestors. Those who, like ourselves, enjoyed his familiar friendship, discerned in him the knowledge, cheerfulness, imagination, the vein of melancholy, passion, and artistic instincts, together with enthusiasm and perseverance natural to the nations named. From his father, an officer in the Austrian army, he derived a love for music, and from his mother, who was a French woman, he inherited a taste for art.

When young Sarony was ten years old his parents moved to this city. Shortly afterward his father died, and the lad was apprenticed to Robinson, a lithographer, for six years. This leading in his life he always regretted. Had he been drawn among artists instead of among mechanics, there is no estimating what a different life, as an artist, he would have led. Yet we may say that it was a good thing for photography, even if not so well for him, that he was led as he was. His life was not wasted. Neither was his advancement in art stopped. Inherent artistic talent was developed by the circumstances of his life. If we remember rightly, only six lessons on the human head were given him by Baron de Balfoe, who accompanied Louis Napoleon to this country. These were his first real steps in art. Even at this time, although rapidly approaching manhood, the young artist was in doubt as to what should constitute his life-work. But

his unbounded love for art controlled him, and before very long, as might be expected, he found something to do which was congenial to his ambition, taste, and genius.

In the year 1848 he founded the well-known lithographic firm of Sarony, Major & Knapp, in this city. Although doing a prosperous business here his heart was not satisfied, so he made a journey to Europe, that a more serious study of art might be indulged in under celebrated masters. The hard struggle of his life came during the five or six years he spent abroad with his younger brother, Oliver Sarony. The story is one common enough in the lives of those who have made themselves famous in all avocations. Through the mismanagement of his agent in New York the modest fortune he had acquired was dissipated and he had to begin life anew. This drew upon his indomitable spirit and perseverance to their fullest extent. The brothers had given much attention to photography while in Europe, and Napoleon opened a studio at Birmingham, England, his brother Oliver starting in the same business at Scarborough, where he died a year or two ago, after a most successful career.

SARONY.
From an early daguerrotype (1842).

Sarony's inclinations, however, lay in the direction of America, the land of his birth, and, though his venture at Birmingham was successful, he disposed of the business and returned to New York just after the Civil War. His first studio was at 630 Broadway. There it was that he began to apply the artistic methods of the ateliers of Paris to the processes of photography. A few years after he removed to 680 Broadway, and then to the Union Square gallery, which he made famous. In 1876 he was recognized as the leading photographer of the western world, and to his studio came the most notable men and women of the professions, celebrities in all walks of life, and not a few titled folk from abroad. His collection of negatives of celebrities alone numbered over 40,000.

One of his earliest undertakings was the introduction of the well-known posing apparatus which bears his name, with new draperies and accessories peculiar to his methods of working. The use of these he not only personally demonstrated to the fraternity, but by publishing studies in posing and lighting he excited the ambition of American photographers to such a

degree that there was a revolution in the art. Since that time photographers have sought for artistic effect to a greater extent than ever before, and to the genius and example of Sarony is largely due the enviable position reached by American photography.

In all the years devoted to portraiture he continued to study art in all its forms. This was his consolation. Among the rooms of his studio was one which he called his "den," and there, with chalk, crayons, and charcoal, he drew from nature and indulged the pictorial aspirations not possible of realization in photography. His knowledge of the human figure, so gained, enabled him to succeed so eminently in his posing and lighting under the skylight. He knew the anatomy of the figure perfectly, and so was helped in the production of his pictures, which were always free from incongruities and artistic falsities. Many of his choicest pictures have appeared in the pages of this MAGAZINE and *Mosaics* during the past twenty years. Two years ago an extensive series of his studies, under the title, *Sarony's Sketch-Book*, were issued in portfolio form and had an enormous sale. Some of them were drawn from life, but the majority were photographic studies finished by the touch of his master hand. As a black-and-white artist Sarony was a regular exhibitor at the National Academy here and in the London galleries. He was the founder and central figure of the Kit-Kat Sketch Club and a member of the Salmagundi and Tile Clubs of this city.

During his remarkable career he made and spent several fortunes. He was liberal in disposition and generous to a fault in all that concerned his art. Last May he decided to abandon the gallery in Union Square and to open a new studio on Fifth Avenue. This was done, and there his son, Mr. Otto Sarony, now carries on the business left by his father. Previous to the removal the large collection of curios, art treasures, and souvenirs of distinguished patrons, which had accumulated during Sarony's long career, was sold at auction. The occasion was of unusual interest and attracted much attention.

SARONY. From a sketch by himself.

Sarony was buried from the Church of St. Leo, on Twenty-eighth Street, just around the corner from his studio, with all the touching ceremonial of the Catholic Church, in which he was brought up and died. The end was appropriate to the life. The pall-bearers were all life-long friends and all National Academicians: William M. Chase, C. Y. Turner, Edward Moran, J. H. Dolph, Alfred Jones, and F. Hopkinson Smith. They were followed by the members of Sarony's family and all the old employés of the dead master, some of whom had spent twenty and others thirty years in his service. Many of the older photographers of the city, Benjamin J. Falk, George G. Rockwood, William Kurtz, Edward Bierstadt, C. J. Cox, and others were there, and the

church was crowded with members of the various professions. The Photographers' Copyright League of America, of which he was president, sent a beautiful floral wreath. Chopin's funeral march preceded the requiem mass, during which the pastor of the church spoke sorrowfully of the loss the world had sustained and hopefully of the future life. As the body of Sarony was borne out of the church to his last rest in Greenwood the place was filled with the dreamy melody of Schumann's *Traumerie.*

A FEW WORDS ABOUT SARONY.

BY W. A. COOPER.

ONE of the strongest personalities and a great light in the photographic world has gone out. Sarony, the man to whom the title of Master Photographer or Artist Photographer was the best fitted, has left us as suddenly as he first came on our view over a quarter of a century ago.

SARONY.

Among those of us who had the pleasure of his friendship and knew the social and kindlier side of his life the loss is keenly felt. To New Yorkers generally, and Union Square habitues in particular, his sudden departure was a shock. No citizen of this great city was more generally known or more highly esteemed; and, while his work and genius belong to the world, the name of Sarony will always be associated with New York. His positive signature everyone knew, and, like everything else he did, it was original and artistic.

Sarony was an artist to the tips of his fingers, and his creations were not merely likenesses, but pictures also. Take the picture of Ada Rehan, published in this number of the MAGAZINE. It is as *Katharine* in "The Taming of the Shrew," and is the embodiment of defiance and dignity. It was in this—the delineation of expression—that Sarony excelled. The pose of the figure and the lines of the drapery are perfect.

Besides posing professional people he had the faculty of drawing out the expression properly suited to the part portrayed. It was this that made his pictures living things. Take those of Jefferson in "The Rivals," "Rip Van Winkle," or "Caleb Plummer" (the latter could be hung side by side with a Rembrandt). They all possess the distinct and individual beauties of the part; in expression, pose, and background nothing is forgotten.

This can be said of many of his pictures of the older actors and actresses, such as Florence, Raymond, Wallack, Ristori, Charlotte Cushman, Maggie Mitchell, and Clara Morris. It applies, with equal force, to his pictures of great men in other walks of life—Beecher, Cyrus Field, Greeley, and

Commodore Vanderbilt. All of these were made in wet-plate days and in all sizes, from cabinets to 18 x 22.

It is a marvel to me in looking them over to find that all are up to the same high standard. The master's hand is observable in all. One set particularly I wish to speak of, viz., six 11 x 14 studies of Raymond as "Ichabod Crane," where background and accessories were specially painted for the pictures. The lighting, posing, and chemical effects are admirable, and I wish every photographer satisfied with his everyday productions could see them.

In the early 60's Sarony began photographing in Birmingham, England, and his son, Mr. Otto Sarony, who still carries on the business here, tells many stories of his father's doings under the skylight in those early days. Some of his expedients in handling unmanageable sitters, especially of the gentler sex, simply cannot be adequately described in cold type. He was absorbed in his subject, and often, in his impulsive efforts to secure pictorial effects, overturned conventionalties in laughter-provoking ways.

When I first knew him, thirty years ago, on the opening of his studio in New York, he was a bundle of nerves and muscle. Although short in stature, standing only five feet one, he had the chest and head of a large man, so that you did not perceive his shortness, but felt yourself in the presence of an intellectual giant.

Mr. Richardson was his first and only operator, and in those days of wet-plates it was no easy matter to keep up with his rapid and many poses. In speaking of old times, Mr. Richardson says, "When I knew him he was the man to make things hum. Sometimes when things were quiet under the skylight, suddenly his step would be heard on the stairs followed by half a dozen sitters. 'Put in a plate my boy;' answer would go back, 'Hi, hi, your honor,' and then things were quite lively for a time. When he photographed Jim Mace, the pugilist, on his first visit to this country, he danced around him, slapping him on the chest and in the ribs in a way which fairly astonished the champion, who enjoyed it hugely. There will never be another like him."

He was one of the first to dignify our profession with the touch of the artist, and was not surpassed by any of those who have followed in the lines he marked out. For years he stood alone, distinct, and unique in his personality. As a master photographer in the profession he was beloved, and will be missed and mourned by all who put their hands to pictorial portraiture. We have lost his presence, but his work remains.

SARONY: AS SEEN BY HIS CONTEMPORARIES.

Our readers will be glad, we believe, to possess the few appreciations of Sarony's genius which are given here as supplementary to the inadequate memoir which appears on another page. They are taken from letters recently received and from the newspapers of our city:

Sarony will always rank as the great master and genius of portrait and pictorial photography. When, in the 60's, he entered the profession, his magic touch at once gave an impetus to our art which raised it to heights unknown before that time. In his hands the camera became a tool with which, in addition to truth, poetry and ideality were portrayed as well. More than all others, he had the great gift of seizing what was characteristic and picturesque in his subjects with the quick in-

tuition belonging to the successful photographer, and of making these features predominate in his pictures. In this respect, and in the matter of calling out the sitter's best expression, many of his works must be stamped as veritable creations. When

A SKETCH FROM LIFE. (BY SARONY.)

we consider the great amount of work he did, and the elevating and far-reaching effect it had on the entire profession all over the world, we cannot but be grateful that he lived and worked among us, and we may rest assured that his fame is secure.

BENJ. J. FALK.

DEAR MR. WILSON: It is difficult to speak of Sarony without seeming to give way to undue praise. To my mind he was at once the leading spirit of his profession and the personification of all that is summed up in the words Bohemian and artist. His enthusiasm for art predominated above every other characteristic; no subject in conversation pleased him more or was entered into with so much genuine delight.

His earnestness as a student of art, which kept him unceasingly at his easel or at the camera, led him to promote many schemes for the advancement and better study of all kinds of pictorial effort. Of his untiring endeavor to lead photographers to higher art standards the profession already knows. A broader and more successful scheme was that which resulted in the organization of an evening working school for artists occupied during the day—the well-known Kit-Kat Sketch Club of New York.

Sarony was one of the prime movers and charter members of this club. Among his associates and warm friends there may be counted W. C. Fitler, the landscape painter; J. Wells Champney; C. Y. Turner; Frank Bush, the cartoonist; Thomas Shields Clark, sculptor and painter; J. W. Alexander, portrait painter; L. W. Seavey, scenic artist; James Fagan, whose beautiful etchings have brought him fame; Percy and Leon Moran, figure painters; Theo. De Thurlstrup, well known as an illustrator, and several others.

The Kit-Kat Club derives its name from a popular canvas used by painters, its size and proportion being known as the kit-kat size. The emblem of the club is an in-

verted triangle with a kit and a cat in the centre. It appeared on the P. A. of A. diplomas issued at the Buffalo Convention of 1891, which were designed by Mr. L. W. Seavey.

In the work of the club Sarony was an active participator to the end. He was the life and soul of the club smoke-talks, full of delightful reminiscences and the drollest stories. How much his genial companionship and kindly inspiration will be missed at our future gatherings words are inadequate to tell.

C. C. LANGILL,
Photographer and member of the Kit-Kat.

MY DEAR DR. WILSON: May I say a word concerning our old friend Sarony and his well-rounded life.

In looking back upon the remarkable development of photographic art during the last three decades, we find no one per-

THE VESTAL VIRGIN.
From the original drawing from life, by N. Sarony.

son to whom we are so indebted as Napoleon Sarony, not only for his genius and knowledge, but for the courage of his convictions and his determination that the commonplace should surrender to the artistic. His bold leadership in this direction gave heart to those who also felt that the art-science could be brought to a higher plane, and, therefore, fell into the ranks to fight for excellence. Antagonized by the ignorant, he was followed by those who sought to better themselves and their art; his influence extended throughout the country, and is now felt by many who do not realize or know to whom they are indebted.

If I could envy any man, it would never be for his money, but for the power to leave to posterity such a record of usefulness as that left by Sarony.

Yours very cordially,

GEO. G. ROCKWOOD.

N. Sarony.

SARAH BERNHARDT AS CLEOPATRA.

"Edward Moran, the marine painter, was one of Sarony's oldest and closest friends in this city. They were wholly

sympathetic and much in each other's company, and Mr. Moran is perhaps better qualified to speak of the artist-photographer's personal character than any one else outside of his family.

N. Sarony.

SARAH BERNHARDT AS CLEOPATRA.

"Genial is the word which seems to me to describe Sarony," said Mr. Moran last week. "He was one of the most cheery, kindly men I ever knew. Every artist loved him, and large numbers of them have reason to be extremely grateful for his acts of generosity toward them when they were in need. His almost childlike impulsiveness probably impressed strangers as much as anything else about him. Although it was so marked, it was perfectly spontaneous and natural."

Thomas Nast, the caricaturist, who was for many years an intimate friend and great admirer of Sarony, talked pleasantly about him to a *Tribune* reporter the other day.

"Sarony was a pioneer and a master in the art of posing," he said, "and there was one peculiar feature which made his work stand apart from that of any one else. He made everyone he photographed look

like Sarony. You know what I mean. The same feeling was in every picture. Partly from imitation and partly from following out his directions, all his sitters seemed to catch the Sarony tricks of expression and pose. If they did not he would not take them at all.

"With that class of persons who wished to be allowed to pose themselves he would have nothing to do. He knew his own profession, and insisted upon having absolute liberty to do his work as he thought best. More than one well-known actress has been reduced to tears because Sarony would not 'take her' any more. This was his punishment for interference with his ideas. He excelled himself in photographing theatrical characters in costume. No one caught the true spirit, either of comedy or tragedy, quite like Sarony. He was so fond of his art that he practised it for hours simply to entertain himself. His friends were often impressed—willingly enough on their part, too—into serving as subjects for his experiments. Many a time he has made me dress up in some of his remarkable clothes and sit for him. A big, fur-lined, dashing sort of overcoat was a favorite garment in which he arrayed me. I used to object, and tell him that it did not look natural; that I never wore such a thing in my life. But that had no weight against his invariable answer: 'Never mind, it is artistic, my dear Nast.'

"Thousands of people admired the photographic and other work of Napoleon Sarony, and thought him one of the most artistic men of his time. Thousands had no taste for him at all, and considered his pictures, whether drawn with the crayon or taken with the camera, just so much artificiality and 'popular prettiness.' It seems just to steer between those two extremes, and to value Sarony for having done intelligent, clever work when other men were commonplace. To-day he is the more in danger of getting less than his deserts for the reason that photographic portraiture has progressed by leaps and bounds. Where a plate would once have been discarded as too 'vague,' too 'misty,' it is now prized as representing the quintessence of photographic beauty. We speak, of course, of such photography as you get when you 'sit for your picture.' Sarony was never disposed to adopt this newer method. When he drew his graceful pictures of nymphs and fairies, of goddesses, tricked out with pretty draperies and shown clinging to the crescent moon, he was willing to be 'misty' with the rest of the world. But when he photographed a member of everyday society, or an actress, or a statesman, he sought above all things to be as crisp and as clear as a photographer could be. Sarony invented the type of picture, especially the type of photographic portrait, which is associated with his name. There is a Sarony tradition which, it may be observed, is in itself no small legacy to have left. Not every photographer leaves so much as a tradition. It is not unlikely that it will continue to receive a wide support for many years. To have felt sure of that would, perhaps, have pleased Napoleon Sarony most."—*New York Tribune.*

"No man who has ever lived has done so much to promote photography from the domain of the mechanical arts to that of art proper as Napoleon Sarony. In the artistic world his name is one of those written in letters of gold. For Sarony was not only the premier photographer, but a notable painter and a remarkably clever free-hand draughtsman as well. The world-wide reputation that he has made is part of New York's history.

"All the prominent men and women of the past forty years of American history have posed for Napoleon Sarony. The pictures of many of them, leaders in society, politics, religion, art, commerce and

what not, are preserved in the collection which is the pride of his family.

"For twenty years he dominated the photographic portrait business in New York. His studio was a museum of curiosities, antiques, rare bric-a-brac, and draperies. His walls were hung with the portraits of celebrities of every land, all the work of himself, whether with brush, with pencil, with crayon, or with camera."—*New York Journal.*

We have called Sarony the Victor Hugo of photography, because he was able to bring out vividly, yet naturally, the characteristics of his subjects in a style which nobody else equalled. His eyes were quick to see, and his camera quick to record what he saw and felt. He was a master of lighting and posing and exceedingly dramatic in his methods. It was a pleasure to witness him working—mind and body—when at the camera. Mr. Sarony's inborn artistic temperament, cultivated, refined, and perfected by the most persistent study, was what enabled him to realize the pictorial capacity of the camera to the fullest degree. In his hands the camera seemed to be used as deftly as a pencil. He could do almost anything within the range of the draughtsman's art at his will. His sketches from life have been purchased by many artists in different professions and are owned by some of the most noted authors. Mr. Wilkie Collins was a great admirer and warm friend of Mr. Sarony, as were the elder Sothern, the late Duke of Bedford, John Bright, and other notables. Mr. Joseph Jefferson owns one of his life sketches. Mr. Benjamin J. Falk possesses a round dozen of his choicest pieces of work. Others of these have passed from one ownership to another until their present locality is unknown.

The time will come when artists will wish that these studies of Mr. Sarony had been preserved and placed together in New York, where all could have the benefit of their teachings.

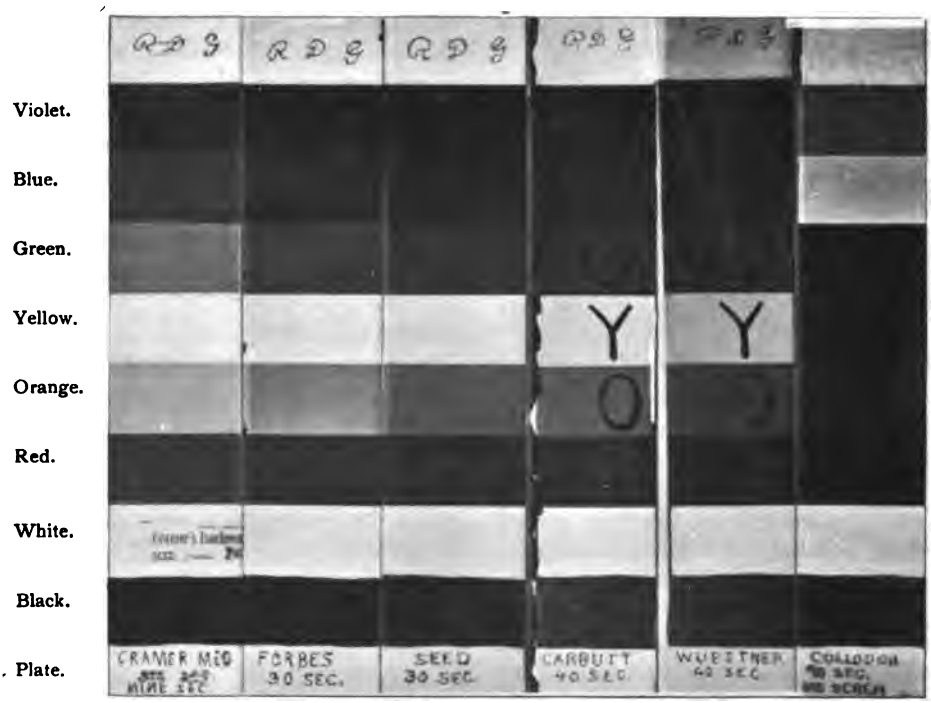
COMPARATIVE TESTS OF ORTHOCHROMATIC PLATES WITH YELLOW COLOR-SCREEN.

BY STEPHEN H. HORGAN.

A RECENT article of mine, giving the results of a search for a genuine orthochromatic plate,[1] has been raised to an unexpected importance by the ridiculous criticism hurled at it in so many of the photographic journals. The surprising lack of knowledge on the subject of orthochromatic plates shown by these critics clearly indicates that there was a need for just such an article.

Inasmuch as my motive in writing the article has been questioned, a word or two as to how the first article came to be written may not be out of place: I had devised a method of making color-blocks from water-color drawings for the rapid printing press. This process required four color-selective negatives, one of them to be perfectly orthochromatic. I tried orthochromatic plates of various makes without entirely succeeding. Meeting Mr. Walter E. Woodbury, of the *Photographic Times*, I mentioned the unexpected trouble encountered in getting true orthochromatic negatives. He suggested that the researches would be interesting to many if published. Then the comparative tests were made. It required forty-two exposures on the color chart before the ten properly timed negatives were secured from which cuts were published. These experiments were made during the mid-

[1] See page 462 of the October (1896) number of this MAGAZINE.—ED. W. P. M.



Sections from five brands of orthochromatic plates after exposure through a yellow screen, showing time of exposure required to secure orthochromatic results.

hours of three days. The light being variable, the times of exposure required for each plate were omitted in the article because they would be misleading.

Herewith are given the results of some further comparative tests, this time with a yellow-color screen. It is not expected that the conditions under which they were made will meet with the approval of every critic, but they are recorded here with confidence that the users of orthochromatic plates will at least see that there was a conscientious endeavor made to learn more of the properties of commercial orthochromatic plates.

It should be needless to add that I have no interest in any brand of dry plate, and I am not even acquainted with the makers of them, with the exception of Mr. Carbutt. I know little, and care less, of their methods of manufacture, but I am anxious to find out if there is a difference between the various brands of orthochromatic plates and share with my brother photographers the information obtained. "If that be treason, make the most of it."

Mr. R. D. Gray, with Mr. John A. Tennant, assisted me in these experiments. Mr. Gray is the lens-maker whose work in photography in the colors of nature, for projection and printing-block purposes, is well-known to the readers of the MAGAZINE.

The plates used were purchased at the stock houses. The color chart was an artificial spectrum made with Prang's standard colors. It was illuminated with two of J. B. Colt & Co.'s arc focussing lamps on a 110-volt circuit, using about 23 ampères of current. The color screen employed was a Bausch & Lomb cell filled with their standard chromate of potash solution. To

record the time a standard pendulum, beating exact seconds, was used. The lens was a Hermagis Aplanatic No. 6, used with stop *f*/55.

Fresh developer, made as follows, was used on each plate:

Water	5 ounces.
Sodium Sulphite . . .	160 grains.
Sodium Carbonate . . .	80 "
Pyrogallic Acid . . .	10 "

Now as to the method of operation: One plate of each make was taken from its box in an absolutely light-tight dark-room. Mr. Gray wrote the name of each maker on the respective plates, together with his own signature. These plates were then put together in a box from which they were taken singly for the speed test. Mr. Gray also made the exposures. The plates were then developed separately; the endeavor being in each case to get all the detail there was in the plate. The light being so weak in the dark-room there was no way of distinguishing one plate from another until they were all fixed and washed. When the negatives were dry, Mr. Gray determined the proper exposure for purposes of comparison; he also scratched upon a section of each negative his initials, R. D. G., and at the other end of this section of each negative the brand of plate was etched. These strips were then cut (with a poor glass-cutter) from each negative and secured by Canada balsam to a clean plate of glass. A print from this composite negative is reproduced herewith.

The chart tells its own story. The reader can select which plates are most sensitive to yellow and require the shortest exposure with a color screen. A section of a wet collodion plate, exposed to the same chart, is added to show how sensitive to blue and insensitive to yellow the non-orthochromatic plates of the past were.

About the keeping qualities of the plates: Of the boxes purchased three months prior to these last experiments all proved to be in perfect condition with the exception of the Lumière "Series B" and the Forbes's ortho. These two brands had deteriorated so as to be useless. Fresh boxes of Forbes's ortho and Seed's ortho were purchased for these experiments.

As to the apparatus employed: Mr. Louis Prang writes me that every new edition of any one of his standard color papers is compared with the original model before being issued. To the scientific critics who will maintain that a prismatic spectrum should be used, it may be answered that the practical users of orthochromatic plates are not called upon to photograph spectra or rainbows. No exception can be taken to the Bausch & Lomb color screen with the standard chromate solution. The J. B. Colt arc lamps give the steadiest of lights. To the critics who will claim that a special developer is necessary for each brand of plate it might be asked if they know of a developer that has color-selective properties that will develop the yellow in the negative and hold back the blue?

Taken altogether, the unprejudiced must admit that in these comparative tests conditions were sought for that would be as fair to one as to the other. And the conclusions arrived at from these experiments are, in part, as follows: That as shown by my first article there is but one brand of plate approaching true orthochromatic qualities without a yellow-color screen. These later experiments demonstrate a fact that should never be lost sight of in considering orthochromatic plates, and that is: *That a true orthochromatic plate, being super-sensitive to yellow, its speed is but little interfered with by the use of a color screen; while the same screen becomes a serious obstacle to the speed of a plate that is not entirely orthochromatic.*

THE STUDIO AND WORK OF J. E. AND A. J. RÖSCH.

We are fortunate in being able to give our readers a glimpse of one of the most famous of American studios, together with its *personnel* and work. In our own country the reputation of Messrs. J. E. and A. J. Rösch, of St. Louis, is acknowledged as belonging to the highest order, while their work has secured warm praise and substantial recognition at more than one of the leading photographic exhibitions of Europe. To have reached so enviable a position in less than a dozen years speaks volumes for the industry and capabilities of these well-known photographers.

A. J. RÖSCH.

J. ED. RÖSCH.

Mr. J. Ed. Rösch and his brother, Mr. A. J. Rösch, belong to the present generation of professional workers. They began in business for themselves at 1513 Olive Street, St. Louis, in 1886, and in 1893 opened their present gallery at 1203 Olive Street, to cope with their increasing patronage. Mr. J. Ed. Rösch during the five years previous to 1886 had managed the gallery of Mr. G. Cramer, and his brother was known as a photographer of uncommon skill in the handling of ladies and children. Thus the brothers were finely equipped for their venture in business, and the results have signally demonstrated the wisdom of the preparation made to secure success.

As members of the Photographers' Association of America since 1887 Messrs. Rösch have kept in close touch with the progress of the profession. Mr. J. Ed. Rösch, from the beginning, threw himself into the work of the Association and made great efforts for its reformation.

Speaking, in 1894, as Secretary of the Association, he said (and it is as true today as it was then): "We should be willing, to a man, to stand by our Association

and assist in fully developing its ultimate and positive greatness, because it is a National Association. To this end we, as men of integrity and members of our profession, should be willing to sacrifice at least sufficient time and thought to demonstrate our ability as picture-makers representing America to the world. It should be a matter of duty with each individual member of the Association to help it on to more positive success year by year, and to make its future of more utility."

will find in its pages an illustrated record of the onward march by which these enterprising workers have gained the preeminence they deserve. An excellent portrait of each is engraved herewith.

The Rösch studio is, as the accompanying illustration shows, a typical modern skylight, planned and equipped for all the exacting requirements of the portraiture of to day. Ample in height and length, with abundant illumination, its facilities have offered opportunities for achievement

THE RÖSCH STUDIO, ST. LOUIS.

This spirit of earnestness and thoughtfulness crops out in all the work produced at the Rösch studio, and is its predominant characteristic.

At the annual exhibitions the Rösch display has invariably been among the successes of the year, and, by dint of continual striving, each year has added to the medals held by Messrs. Rösch as records of progress. Those who possess the volumes of this MAGAZINE for the past ten years

which have been fully appreciated. From under its glass roof there has come, during the past ten years, a steady stream of artistic photography—pictures of the cultured and wealthy citizens of St. Louis, thousands of delightful souvenirs of young America to be treasured in after years, and compositions innumerable illustrating facts and fancies in poetry, fiction, and life.

With the letter which brought the portraits here given came a dozen beautiful

examples of portraiture. These we have added in this number to supplement our

J. E. & A. J. Rösch, St. Louis.

PORTRAITS.

notice of the work of the Rösch studio. In all of these studies, taken at random from the every-day work of the gallery, the ambitious portraitist will find helpful suggestions for application in his work. They are at once perfect in technique and refined

J. E. & A. J. Rosch. *St. Louis.*

A BEVY OF FAIR WOMEN.

in taste, gracefully posed and lighted to produce the most pleasing effects. It is evident that their remarkable quality results from a happy combination of clever photographic work and pictorial methods of treatment.

It is of interest to note that since they began in business Messrs. Rösch have used the Cramer plate exclusively. To the peculiar qualities of this brand the excellence of their work gives eloquent testimony. Mr. J. Ed. Rösch adds: "In my opinion the Cramer plate leads all others. The most superior chemical effects and quality can be obtained with ease and less labor on this plate than on any other in the market. I consider it still as the 'king' plate of the world."

Those who desire further information as to the working principles of portraiture as applied at the Rösch studio will find "food for thought" in the papers on "Negative Making" and the "Treatment of the Subject," contributed by Mr. J. Ed. Rösch to this MAGAZINE, vols. xxx. and xxxiii.

OUR PICTURES.

THE pictures which illustrate this number of the MAGAZINE speak for themselves in no uncertain way and require little of editorial comment or description. Whether taken separately or together, they are examples of photographic work of which the fraternity may reasonably be proud. They bring together, without prejudice to either, the passing generation and that of to-day. We believe that they will bring inspiration as well as pleasure, coming, as they do, from studios whose world-wide reputations are based on success won in many a hard fight. Let us give them all the earnest study they deserve.

The frontispiece is one of Sarony's famous professional pictures. It represents Miss Ada Rehan, familiar to all as the leading lady of the American stage, in the character of Katharine in *The Taming of the Shrew*. It is an admirable study, and Shakespearean readers will at once recognize the fidelity of the portrayal of the part. The negative from which our prints were made was kindly loaned by the Sarony Publishing Co., of this city, now the owners of Sarony's collection of negatives of celebrities. We may mention, as of public interest, that an exhibition of the choicest pictures of this immense collection will shortly be held on one of our principal thoroughfares. It will be an artistic treat worthy of a visit to New York.

The engraving of the bust of Sarony, given as an inset, will recall many pleasurable associations of the master whose magic touch the world will know no more. The bust was made almost twenty years ago by D'Amore, an Italian sculptor, and for many years was a familiar ornament of Sarony's reception-room at the Union Square gallery. It now occupies a place of honor in the reception-room of B. J. Falk, Esq., of our city, to whose courtesy we owe the photograph from which our engraving was made.

Of the studies in portraiture from the studio of Messrs. J. E. and A. J. Rösch mention will be found in the article on another page. It would be a difficult task to say in what particular any one of them could be improved.

The Velox prints for our frontispiece were made by Mr. Frank Davies under our supervision. Apart from the excellence of the negative their quality is largely due to the special Velox paper manufactured for our edition by the Nepera Chemical Co., of Nepera Park, N. Y. Some notes on this paper appear on another page.

PROGRESS—BACKWARD.

BY D. BACHRACH.

THE heading of this article suggested itself to me on reading the short paper entitled "Progress," contributed by Mr. E. M. Estabrooke to the December number of this MAGAZINE. I must kindly but firmly take issue with certain portions of that article, prefacing my remarks with the dictum that things are not necessarily progressive because they are new or novel.

The principal exception I take is to the statement that the man who still thinks that albumen paper (as we have repeatedly shown in the past) is good enough for him is a self-immolated victim under the wheels of the Juggernaut of progress. Such a statement, if permitted to go uncontradicted, is apt to prove misleading, and may have a pernicious effect upon the younger and inexperienced members of our profession. And at the same time I must notice the assertion of the "Pennsylvania subscriber" on the next page, "that the American photographer will never return to the old style of albumen paper printing, with all its messy and vexatious preparations and manipulations." He ought to have added, "so much the worse for the American photographer in that case."

Albumen paper is by no means my ideal printing-out paper. The "Aristo-platino" is far nearer the ideal in results, platinum and carbon being my ideals of perfection to date. But as the glossy prints with warm black tones always have had, and will continue to have, a majority of admirers among the general public, ignorant or rather undeveloped in artistic tastes, we have committed the worst possible blunder in exchanging albumen for the glossy emulsion papers. Does Mr. Estabrooke think that such men as Falk, Gilbert, Davis and Sanford, and scores of other leading men I could name, who have never given up albumen paper are among the self-immolated? I will inform him that the man in one city (Baltimore) who has had the largest run for small work for the last five years, and the best class of patronage, is one who has never used the glossy emulsion papers, and used albumen paper constantly. And, further, our own establishment is only one among scores of others who have thrown overboard emulsion papers and gone back to albumen, with big sighs of relief and suppressed curses for the experience with the other papers. Since the cheap so-called crayons were introduced as a substitute for direct large work, no more disastrous blow to prestige and business prosperity has been struck at our profession than the introduction of these papers. I will not repeat here the arguments and facts given in my former papers on the subject, but will only add with emphasis that every day's experience proves the truth of my assertions and predictions. When prints are made easily and cheaply, and are also known to fade, they descend to the level of mere playthings, and are no longer valued by the public.

I will add, further, that even the *one* exception to this condemnation, the matt-collodion paper, would be just as unreliable as the rest had it not been for the discovery that *very strong printing* along with thorough toning in the platinum solution, until substitution was complete, accomplishes the double object of the fine olive-black tones and permanency, *as far as we can tell at present.*

But the other writer, when he speaks of the "messy and vexatious manipulations," gives the key to the continued use of the miserable substitutes for albumen paper.

The truth might as well be told frankly. Many members of our profession are lazy, ignorant, and lack the ability to look at the future of their profession from broad and comprehensive grounds. Hence, they will continue to use a novelty which saves them trouble and the use of brains, if it suits a degraded taste they have helped to create, contrary to all that is natural in art, even when they know they are giving their patrons unreliable products, and thereby swindling them out of their money and putting our profession into disrepute. But with all this I want to tell him and the profession that, outside of silvering the paper and keeping the sensitizing solution in order, which anyone with the proper training and *brains* can do (and no others ought to have even a chance of doing), any establishment turning out 20 or 30 dozen cabinet prints on a printing day can do the work with less "mess," less waste, more uniformity, and *less hands* with albumen paper and a printer worthy of the name, than with the best of the print-out papers. I speak not only from my own experience, but it is that of scores of others. But the curious part of Mr. Estabrooke's remarks is found in the assertion that "platinum, carbon, and silver matt will soon rule the roost!" Why, my dear friend, this is "progress backward," I am happy to say, and I will help to speed the day cheerfully when it becomes universal. I may here remark that "carbon" was more popular fifteen or sixteen years ago than it is now, and the other kinds of prints were made long before emulsion print-out papers were thought of. The latter papers have made possible the numerous "99 cents per dozen for cabinet size" slop-shops, and they have made possible even the "16 electric cabinets for a dollar" in our city. Is it a wonder that the public look upon us almost as fakirs? We can still rescue our profession from the threatened doom. Take hold of "platinum, carbon, and silver matt," and even old albumen, for glossy results, and trumpet the fact to the public that we have returned to permanent as well as artistic work. Let the public know that you are done with the false, marble-like, high-polished prints that fade. Give them a black eye on every occasion, for remember that what enables every brainless fellow to compete with you, such as being able to utilize weak mudwashes of negatives for passable prints, is contrary to your interest to use. By accustoming your patrons to the other class of prints you will force the degrader and cheap John to use the same, and then you have the advantage over them. It is in this case that artistic taste and good business sense point to the same road to reach the goal. *It can be done if we all work together. One man cannot do it alone.*

FACTS CONCERNING COPYRIGHT AND REPRODUCTION.

BY WALTER SPRANGE.

THE existing conditions governing the right to obtain the copyright of a photograph or a reproduction of one in the United States and in those foreign countries with which it has reciprocal copyright agreements seem to be very vaguely understood and to have received but little attention in the columns of photographic publications.

The detail of the requirements necessary to have the title of a photograph or reproduction of one recorded, and of obtaining a certificate of such record, can best be ascertained by writing to the Librarian of

Congress, Washington, D. C., for a blank form of application for the copyright of a photograph. It will be furnished free of cost.

Briefly stated, it is necessary to have a separate title of each engraving, cut, print, photograph, or chromo, printed on paper as large as commercial note (typewritten letters will be accepted), and to forward it to the Librarian of Congress, Washington, D. C., on or before the day of publication, with a fee of fifty cents (postage stamps will not be accepted) for recording, if the applicant resides in the United States, or of one dollar for persons residing out of the United States. Certificates of the record will be furnished, if desired, for an additional fee of fifty cents each. Two copies of the photograph, or reproduction, mounted at least as large as cabinet-size, should accompany the application, but can be forwarded on or before the day of its publication. And one copy of any new issue wherein minor changes are made must also be forwarded. Each print, or its mount, must bear the words 'Copyright, 18— (year), by — (name)."

The applicant must be able to state that the negative from which the photograph or reproduction is made is of American manufacture, and whether he or she is the author, designer, or proprietor, and the full name and address must be given.

In order to sustain a copyright after the certificate of record is issued, the photograph must embrace an original conception in arrangement, subject, lighting, etc. In portraiture the copyright belongs to the person photographed, if it has been taken by a professional photographer and the usual charges have been paid in the ordinary routine of business.

If any material change is made in title, design, background, etc., a fresh application must be filed, and two copies of the photograph or reproduction forwarded to the Librarian of Congress, as before.

An applicant for copyright must be either the author, designer, or proprietor; but copyrights are assignable by any instrument in writing, if recorded in the office of the Librarian of Congress within sixty days from its execution. The fee for the record and certificate of such an assignment is one dollar, and for subsequent certificates one dollar each.

The requirements that a separate application must be made for each title, and that the applicant must be either the author, designer, or proprietor, seem to be prime essentials which are not carefully observed by a large class who make claim to the copyright of reproductions produced by them.

The requirement that the prints shall be made from negatives of American manufacture absolutely prevents the copyright of any print made from negatives of foreign make; hence American camerists visiting foreign countries must carry American dry-plates or films for all photographs they desire to copyright in the United States; and, under the International Copyright Law, the conditions upon which copyright certificates are issued in those foreign countries with which the United States has reciprocal relations are precisely the same; so that, in order to sustain a copyright claim abroad, the negative from which the photograph is made must have been manufactured in each of the countries in which the copyright certificate has been issued.

Copyright certificates are issued regardless of many conditions, of which no inquiry is made, leaving the value of the holder's right to actual facts. Many of the copyright certificates issued abroad upon prints filed by foreign applicants are of very doubtful value; and if the prints have been made from negatives of American manufacture the copyright cannot be sustained.

It is very doubtful if any of the foreign

reproductions sold to and used by publishers in this country, even those sold by the so-called sole American agents of the owners of them, who claim the foreign copyrights of originals, have any exclusive copyright to these reproductions; for instance, there are many European reproductions of the works of the old masters sold in this country by agencies which claim copyright, but could not sustain the claim, even if the negatives for half-tone plates are of American manufacture, because the original conception is not theirs, nor has it been legally assigned to them. Such works, in many instances, are owned by national institutions, and permission to photograph them may be obtained upon request, by almost anyone, no exclusive right to reproduce being granted.

The demand for illustrations for periodical publications is now so imperative that almost every possible device is exercised by the publishers of them to secure original prints. The photographic journals, almost all of which now contain illustrations, originated various plans for obtaining prints for reproduction. These serve the purpose of stimulating practical workers to excel, and also afford object lessons to the fraternity. All this is entirely within the sphere of photographic journalism, and has been conducted with extreme courtesy and a punctilious regard to promises made. The reproduction of the works of both the amateur and the professional photographers shows the progress that is being made in both classes of work; it also draws attention to the individual characteristics of known workers, to traits of subject and scenery, to the advance in photographic art, to the application of photography as an aid to science, and to practical descriptive drawings. All of these features are of extreme value to all classes of workers, and receive, as they should, cordial support from the fraternity, regardless of any ulterior reward.

Many of the illustrated magazines and other publications have since instituted competitions, inviting amateurs to contribute prints from their best negatives, the recompense promised being in the form of awards; dates are given for the final distribution of prizes; in most instances the promises have been fulfilled, but in others they have not; the omissions have not, perhaps, exceeded the usual average of unfulfilled promises that one must expect to meet with in all such undertakings. There are, however, certain acts of courtesy extended by some publishers which are entirely omitted by others, and which deserve attention. It would seem as if the amateur —who goes to the trouble and expense of making and mailing prints free of cost to the publisher—is entitled to an acknowledgment of their receipt and to their return free of cost if they are not accepted. The system of acknowledging the receipt of all prints on a postal card, adopted by the *Youth's Companion* during its recent competition, should be adopted by all; it would cost but little, and would certainly redound to the publisher's benefit in the end.

The practice of returning prints which are not made use of should also be adopted by all—in justice to the amateur. It would also result to the advantage of publishers generally, because they all seem to desire original subjects, and amateurs could submit prints from several different negatives for selection, if they were assured that the rejected ones would be returned; but, without such return of them, they are very often at a loss to know which of their prints have been accepted, and, consequently, thereafter send those of least value, if they send any.

As far as copyright value is concerned, the amateur should make application for a copyright record of the title of all photographs of value before parting with one print of them; the process is simple and inexpensive; and, while one print is being

made to send to the publisher, two more should be made to send to the Librarian of Congress before the first one is mailed; otherwise, having parted with one print, the copyright is lost. The claim made by many publishers, that the copyright of a print sent to them, either for competition or for reproduction, belongs to them, if they have had a plate made from it, is entirely untenable. They have no copyright claim to it, and, if the maker of the negative has not made an application for a record of the title, and filed two prints from it before the publication appears, the copyright is lost to all parties.

A separate title must be filed for each engraving, cut, print, photograph, or chromo. Therefore, the general copyright of a publication does not entitle the publisher to the copyright of its illustrations; and, in the instance of the work of amateurs sent to the publisher in the manner described, the latter has not one tittle of claim, either as author, designer, or proprietor. As a rule, the publisher does not possess the negative, does not know whether it is of American manufacture or not, or whether any prints have been circulated before he received one, and has no written assignment; and, even if he had one, a separate title and two copies of the print must have been filed before a single copy had passed from the maker's hands.

The practice of those publishers, who, having obtained prints for reproduction in their publications free of cost, and having wrongfully claimed the copyright to the plates made from them, and who afterward offer electrotypes from these plates on the market for advertising purposes, seems to be worthy of notice in this article. It is possible that no objection may be offered if the subject is of a general character, such as a landscape or a marine view; but, if portraits are included, it might prove to be very annoying to the sitters to find that portraits of themselves, taken, perhaps, as art or figure studies, have been utilized in this manner.

There are many excellent opportunities offered to amateurs to contribute their happiest results to the pages of publications entirely devoted to the art-science, and also of other publications that include amateur photography in their columns, the editors or publishers of which will courteously acknowledge the receipt of prints, either by direct communication or in the columns of their publication, will notify the sender which photograph sent to them has been selected for reproduction, will return those not wanted, will make no proprietary claim to the productions, and will forward a copy of the publication containing the reproduction as soon as it is issued; and with such usage it is a pleasure to respond to the request for prints.

On the other hand, considering the time, labor, and expense involved in furnishing prints to publishers free of cost to them, it would be a good rule to avoid furnishing them to those who do not exercise the above courtesies, or, indeed, recognize that any obligation has been incurred by them; and, especially, to show the "cold shoulder" to those who undertake to avail themselves of the average amateur's ignorance of the existing copyright laws by claiming that, having made a plate from the print sent to them, the copyright to it belongs to them.

International copyright relations with the United States exist with Great Britain, France, Germany, Italy, Spain, Portugal, Belgium, and Switzerland. Copyright certificates are issued abroad only on receipt of the finished work on the day of its publication, which must be simultaneous in all countries. No certificates are issued for the titles of contemplated works in any of these countries.

BEACH BLUFF, MASS.

PAPERS FOR PROFESSIONAL PHOTOGRAPHERS.

BY JOHN A. TENNANT.

XXIII. LOCAL ADVERTISEMENTS.

AN Iowa subscriber asks for a paper on the preparation of "reading-matter" notices suitable for the local advertisements of a photographer in a town of about 50,000 population. He says he has read the articles on general advertising already given in this series, but thinks local advertising both "peculiar and deserving of separate treatment." I accept the suggestion, although personally of the opinion that advertising has had its share of attention in these business papers.

It is, I suppose, generally understood that a "reading-matter" notice is an advertisement set solid, *i. e.*, without display or spacing, among the reading-matter columns of a newspaper and in the same type, so as to appear simply as an item of local news. In a properly conducted newspaper these notices will always be set with some mark or other to show that after all they are advertisements. In country papers they often appear without any distinguishing mark. The advertisement mark is, of course, undesirable, because it may cause the reader to skip the item to which it is attached. If the photographer can make his notices sufficiently interesting, however, the mark will not, in the long run, detract from the profitableness of the advertisement. To make the most of this kind of advertising the photographer must necessarily be a thorough believer in the efficacy of newspaper publicity. For the man who is doubtful of the usefulness or propriety of advertising for business, the plain announcement, business card, booklet, or semi-personal letter sent from the studio comprise the only methods of publicity likely to prove successful. For those who cater to a popular trade, and who seek every legitimate chance of reaching and holding public attention, the "reading-matter" notice in the daily newspaper will be found of great service as a business persuader. It is a system which calls for some originality, adaptiveness, and directness of expression. The displayed advertisement, with its bold types and illustrations is the band-wagon of the advertiser, attracting attention as much by its noise and prominence as by its argument. The reading-matter notice, on the other hand, is the quiet semi-personal word, designed to do its work on the mind of the reader during his leisure moments. Its construction should therefore be appropriate to its purpose.

The preparation and planning of a series of reading-matter notices for local use should not present any difficulty to the wide-awake photographer. First, he must determine the amount of space to be used daily or weekly, and how long (in time) the series of advertisements is to be continued. The expense involved will help him to determine these things. If the photographer is already a regular advertiser in his local paper, he can generally secure the insertion of small reading notices of his business, either free of charge or at slight cost. Where they have to be paid for at so much per line per insertion, of course the size of the advertisement as it is to appear, and the length of time the scheme is to be kept going, should be fixed from the beginning. A good plan is to contract for a given number of lines, to be used within a fixed time, for which an advantageous rate can generally be secured. We will suppose that the local newspaper is published daily, except Sundays, and that the photographer has contracted for 1000 lines to be used within ninety days. This plan will give

the advertiser a daily space of twelve lines to fill for three months. In these twelve lines, day by day, the photographer can place some very persuasive talking before the people of his town.

The sources of inspiration from which these daily business talks may be drawn are innumerable. Local happenings, interesting persons, or events commemorated daily, the details of the photographer's business, proverbs, thoughts, and desires common to all as expressed in familiar sayings, may all be utilized to introduce the argument or point which is to make the business of the advertiser known to his townspeople. In Shakespeare, in Dickens and other novelists, in the books or themes which for the moment absorb public attention, may be found many texts on which to base profitable business talk.

As a suggestion of the form in which local advertisements should be made up I add an example. Let it not be forgotten that the reading notice is not to appear as a broad advertisement, but simply as an item of local interest, attractively introduced and delicately pointed with a business suggestion.

Example. "The beauty of American children," said a famous photographer not long ago, "is as peculiar, marked, and distinctive as the much talked-of beauty of American women." You are invited to spend a pleasant hour at the exhibition of children's portraits at Hegerman's Studio, on Landis Avenue. Mr. Hegerman has, for many years, made a specialty of pictures of children, and his collection is of surpassing interest to lovers of child beauty. Visitors always welcome. Hours 9 A.M. to 3 P.M.

BROMIDE PAPER FOR X-RAYS.

BY DR. LEO BAEKELAND.

BROMIDE paper is being used more and more as a substitute for dry plates. It has many advantages over the latter. Its price is lower and it can be handled more easily, especially the large sizes. Furthermore, the x-ray image obtained on bromide paper is direct instead of being reversed, as is the case with prints made from dry plates. When bromide paper is used for x-ray experiments a whole package can be exposed at a time without opening the envelope. This is accounted for by the simple fact that the x-rays penetrate through the several thicknesses of paper without absorption, giving several prints at once. With glass dry plates this is not possible, because glass is impervious to the largest portion of the rays.

LABORATORY OF THE NEPERA CHEMICAL CO.,
Nepera Park, N. Y.

A VISIT TO MR. CARBUTT'S X-RAY LABORATORY.

IN the Philadelphia *Ledger* of December 28th was published an interesting account of a visit made by a *Ledger* reporter to the x-ray laboratory of Mr. Carbutt, at Wayne Junction, Pa. After noting the rapidity with which Prof. Röntgen's discovery has been taken up all over the world by scientists and physicians, and the new industrial enterprises created and benefited by the discovery, the *Ledger* says:

"Mr. Carbutt's laboratory for experimenting with the x-rays is very thoroughly equipped with the most improved apparatus. It is a dark-room, lighted only with a lamp which throws out dim red rays. A huge induction-coil which pro-

duces an eight-inch spark was made especially for this laboratory. The current which supplies it is made by a motor-dynamo, or combined motor and dynamo, the motor being run by a current produced by the larger factory dynamo. When the latter is not running a large storage-battery supplies the current to the primary winding of the coil. Mr. Carbutt uses the direct current only, and has made no experiments with an alternating current for exciting his coil. His Crookes tubes are of various sizes and shapes, but he has succeeded best with tubes about the size of a small orange.

"This laboratory is not only experimental in character, but has become to a large extent a practical dispensary, where physicians and surgeons bring their patients for examination, either by the fluoroscope, which enables the surgeon to see with his own eyes the needle or bullet or other foreign substances imbedded in the flesh, or to have photographs taken of malformations for more careful study. Experiments have been made here with blind persons from the asylum, which demonstrated the futility of endeavoring to give sight to eyes in which the retina has been destroyed.

"An interesting collection of photographs made in this laboratory is to be seen there. Mr. Carbutt has the hand of an Egyptian mummy, said to be that of a princess. It is not unlikely that the deceased was of royal blood, for the hand is coated with gold-leaf. An x-ray photograph of the hand[1] showed it to be that of a very young person from the appearance of the bones. Experience has shown that the age of a person makes a decided difference in the shape of the bones and their relation to each other. For instance, an x-ray photograph of the entire body of a six-months' child shows a decided separation between the bones at the joints, while photographs of the hands and limbs of elderly persons show the bones in close proximity to each other and with deposits of a spongy character upon them, particularly at the ends of the fingers. Photographs of this character are very instructive in showing, among other things, how easy it is by the improper handling of very young children to produce a malformation of portions of the body.

"What is being done at the Wayne Junction laboratory is but one branch of the business which has been developed by the discovery of Röntgen. Every hospital in the land has been or is about to be equipped with x-ray apparatus; colleges and schools unnumbered are supplying their laboratories with coils and tubes; while physicians and amateurs are among the most active experimenters, and help to swell the demand for x-ray goods. What it may all lead to none can tell."

COMPOSITION.

BY G. DAVISON.

AMONGST photographers the word composition is used with a variety of meanings. In its most common application it is made to refer solely to the arrangement of the main lines and boundaries of a photograph. This is a mistaken restriction. We constantly hear it said that the composition of such and such a picture is unpleasant because it requires more off the foreground or because a roadway or a river-course is travelling out of the picture. This may be all very well as far as it goes, but it is elementary and incomplete, and in such criticism one is generally aware that the observation and knowledge go no further.

[1] See the article "A Romance of the Ro-ent-gen-ra," in the September, 1896, number of this MAGAZINE.—ED. W. P. M.

Composition is not only a matter of the placing together of lines or outline boundaries and of masses of light and dark in a space, but it also concerns the entire disposition of objects to tell a story or describe a scene. In graphic representation it is personal selection in every particular of arrangement of line and light, of relative definition, relative tone, and of expression —figure of man or face of nature—and it involves, all through the artificial or personal combination, the keeping of the main motive, the sentiment of the subject uppermost in the illusion.

Such works, to deserve the name of compositions, must have a motive personal to the author, and some feeling. Photographs are frequently presented for criticism about which it is simply impossible to say anything from an æsthetic point of view except that they are not compositions at all. There is no subject in them, no pictorial conception, no imagination or sentiment, no decorative aim or knowledge, no emotion stirred, no particular reason for anything—they are simply lists of objects, mere mechanical transcripts.

The difference between such a representation and a good picture is the difference between a catalogue and a telling story with subtle analysis of character, or between a newspaper record and a fine prose composition or poem. The catalogue has its useful place, but ought not to be presented for criticism as classic literature.

It may be true that some element of composition must enter into the production of every representation, however limited the thought, for it is almost impossible that any worker can learn to employ a means of picturing without gathering a few ideas concerning subjects to be selected and the best way of showing those subjects. In these matters the question of degree must always be very prominent.

The photographer is in the peculiar position of having placed in his hands the power of making very complete representations without necessarily having to think and select. He does not start with the simplest of objects, studying its form under varying conditions of light and shade and comparing the graphic result with his mental impression. It would be better if he did. He generally pursues from the outset a course of complicated subjects, accepting what his procedure gives him too much without criticism or attempt at modification. His tendency is to forget more than half of what is involved in composition and to fall into slavery to his tools.

As a matter of fact, manual skill is of little use unless the worker has something worth the telling. Such a state of things is craft without art. When a practitioner in any art craft has acquired his proper technique and knows the use of his tools and what they will do for him, there still remains the important part of how, when, and where he shall apply his dexterity. What shall he select or conventionalize? How shall he give expression to his own impressions of human form, human character and relations, or of nature's appearances and moods.

His practical answer to this inquiry is the artist's composition. He picks out and places together statements or suggestions of those facts which his own observation, feeling, and analysis induce him to select. The education which leads to his selection is the education of his life, the moulding of his surroundings, natural and artificial.

The way in which he orders this technique, observation, and feeling to tell a story, fill a space, design a pattern, describe a person, scene, incident or effect, is composition. And in this view it will be promptly evident that it would be absurd to seek to deduce any absolute rules of arrangement or to give the particular practice of any artist or artists the prominence of laws.

This remark holds with regard to classes

of art which must be frankly graphic and simulative, such as landscape and portraiture, even more strongly than it does to the purely suggestive conventional and decorative sections. But even in the department of applied decoration there are no possible rules for ordering subtle and convincing suggestion by means of a limited technique of lines and unmodelled masses of shade. Every successful design has its charm in its surprise, in its simplicity and fitness, the result of complex thought and a power of abstraction and refinement that defies classification.

To crystallize the methods of any man or school in the form of rules for guidance does more harm than good. It may be possible that in time some small scientific base may be agreed upon to connect the sense of pleasure with certain line and color compositions; but that time is not yet, and, where the number of circumstances to be used decoratively and the proportions of shapes to be filled are infinite, pleasure must wait solely on fitness and fitness upon a thousand thoughts and feelings.

Some time back a statement was made in the photographic papers that there could be no composition in photography, only selection. The remark was made in a discussion and was reported without any context, so that it is not easy to criticise the position taken up by the speaker. Without his definition of the word it may be fighting in the dark to take exception to the attitude. At the same time it is difficult to see how any reasonable meaning whatever can be put upon the word which shall altogether exclude photography. It is true a definition might be constructed which would limit the possibility in photography somewhat narrowly. Some persons, for instance, have the feeling that nothing is really worthy the name of composition without color, scheme, and harmony.

But leaving the large and increasing world of black and white art as its own justification as a whole, how can photography be specially excluded from this group? Take an extreme case. Let it be supposed that the word composition implies a new ordering and arrangement of facts or impressions gained from a variety of experience, and upon different occasions—in other words, a combination of several sketches or memories. This will be no impassable barrier. The degree to which it is actually practised does not affect the principle. Combination photography has given results fully equal in essentials to the domestic genre pictures of the painters' galleries, and a photographer may in a wide range of subjects bring together properties and apply lighting in harmony with previous experiences, thought, or fancy.

To say that the impression in the photographic print is not the impression of the mind is a doubly assailable position. Some find that the impressions *are* alike, and at least it is a matter for personal opinion. If the operator consciously affects in any degree the qualities of his final print in respect of line arrangement, light and shade, and cloud harmony, to mention a few points only, it must be so far his composition.

It becomes a nicer question when the discussion turns upon the local selection and simplification possible and practised throughout very minute passages of artistic work. But this again is a matter of degree. Composition and selection cannot be restricted to a point of practice, which after all, when practically tested, is found to consist chiefly in generalization.

The contention, however, that there can be no composition in photography hardly seems worth serious discussion. The word composition will not bear the strained interpretations we have put upon it for the sake of argument. It refers to the whole work and to every part of the work, to

selection of instance and point of view, to control in exposure, focussing, development, and printing, to ordering the background to the figure, to posing and lighting for character and arrangement of line and mass, to sympathetic calling up and seizing of expression—in short, to every thought and act all through in the production of the illusion which we call the picture.

Any hard and fast distinction between selection and composition in art work is an impossibility. Both involve ordering and arrangement of parts. Whether the selection and composition be set down by brush and pencil or by lens and printing does not affect the principle. The camera could not do it without the man, and no two men could or would independently produce the same composition.

If further evidence were needed, let ocular proof carry some weight. Compare, under circumstances as nearly similar as may be possible, half-tone reproductions of good landscape pictures which have been produced by painting and by photography. There have been many examples of half-tone prints before us in the picture magazines. Take the instance of work by such a good painter as Mr. Alfred East. Its similarity in its reproduced dress to what we are accustomed to in good photographs is quite convincing. Hardly anyone will deny the presence of composition in the print from the painting. And in the photograph will be found something of all the qualities that go to make the print a composition. Why, then, strain to make distinctions which practical results will not warrant?

In a composition there may be a pleasure in the subject, a pleasure in the effective way in which the artist has seized the sentiment of nature—that is, has presented our own unwritten or undefined feelings about the subject—and a pleasure in what may be called the decorative message of the picture.

The pleasure in subject may be quite distinct from any conscious æsthetic consideration, as in many popular pictures of the story-telling class. But even in such cases there is plenty of scope for arrangement, and there may even be said to be a special kind or quality of composition required to produce the particular excitement for which the patrons of this order of pictures crave.

In every class of work it is difficult to separate the various feelings of pleasure. In the finest works the manner is intimately part of the matter, and the proportions and decorative harmony are essential to the whole effect. No picture can be a very perfect work unless it speaks in all three voices as one. If the subject matter be trivial, only a trivial manner can save it from incongruity. Whether in portraiture or landscape one finds it difficult to deny the importance of a distinguished and characteristic instance. This is seen plainly in the general agreement to admire the picturesque type, the furrowed features and white locks of age, or the charm of feminine youth and beauty, even when the treatment is commonplace and out of keeping. In portraiture and landscape the beauty of the work of art is in the character and in the force of its statement, complete and harmonious within its boundaries, wearing its limitations as it were in perfect freedom, like finely ordered music.

The beauty and distinction of instance need not, however, be judged by a popular standard of prettiness. In a portrait picture it matters not if a man be as ugly as the world counts ugliness. The chief feeling of æsthetic pleasure lies in the powerful and expressive rendering of strong typical character. It is indeed quite consistent with aversion for the disposition or conduct portrayed. Tragedy and comedy may alike be pleasing, each calling for its appropriate key, phrasing, and touch

throughout, for, in short, a composition suitable to the theme.

In landscape and in all work where the idea of graphic representation is uppermost the first and foremost quality must be that of natural sentiment. Whether it be the feeling of figures seen through lacing branches, the movement of waters with reflections, or of wind upon grasses, the suggestion of evening calm or noontide brilliancy, or the expression of character in portraiture, the keenest pleasure comes from the subtlety and perfection of the illusion. Not, be it understood, necessarily perfection or completeness of the details of the objects in the representation, but rather convincing expression of the general feeling of that particular phase of nature or personal character which has been made the motive of the picture.

Whilst, however, insisting on this quality of naturalness of sentiment as of greatest importance in graphic pictures, we have no intention or desire to minimize the importance of the decorative arrangement. Every good picture must be decorative as well as graphically representative. Indeed, in the best examples, as already stated, the two parts are inseparably united and merged. There is a reason in the subject motive itself or in the effective concentration of interest upon it for the disposition of every part in the space filled. The subject must dictate the space design.—*The Practical Photographer.*

We commend the saneness of all this.

PRACTICAL FORMULÆ.

Preparing Bromide Enlargements for Coloring. Prints that are to be finished in oil should receive a coat of warm (not hot) size made by dissolving 10 grains of gelatine in an ounce of warm water. It should be applied with a flat camel's-hair brush. With some makes of paper this is not absolutely necessary; but it insures freedom from any trouble due to "running."

The Eastman Company recommends a good preparation for prints that are to be finished in water-colors. The chief trouble when using water-colors on a gelatine-surface is the streakiness that is almost inevitable. This can be avoided by use of the following mixture:

A.

Bleached Shellac . . .	4 ounces.
Alcohol	8 "

Dissolve and let stand at least twenty-four hours.

B.

Clear part of A . . .	4 ounces.
Alcohol . , . .	4 "

Filter before use.

Fill a "spray diffuser" with Solution B, and spray the enlargement all over, not thick enough to run, but just enough to look wet for an instant when first applied. As soon as dry (say in ten minutes) the color may be applied as to ordinary paper. Wash freely and boldly, and, if the color shows signs of washing up on any part of the print, spray some more of Solution B on top of the color; it will do no harm.

Prints that are to be finished in pastel should be prepared thus: Dip a tuft of cotton in pulverized pumice, rubbing the powder well into the cotton. Then spray the print with Solution B, and then hold the tuft of cotton over its surface with one hand and pat it with the other to cause the dust of the pumice to fall evenly and settle on the face of the print. Apply the spray again to fasten the pumice, and, if more "tooth" is required, dust and spray again. After this treatment pastel can be worked as easily as on pastel paper; the enlargement will show clear and bright through the pumice, and the pastel will hold firmly. After using the spray diffuser, always blow

a little clean alcohol through it to prevent it becoming stopped up with gum lac.—W. E. HENRY, in the *Amateur Photographer*.

Mounting Prints with Gutta-percha Tissue. For the mounting of photographs on fabrics or similar surfaces presenting difficulties in the employment of the usual mountants, the thinnest sheets of gutta-percha tissue obtainable may be used to advantage. To mount: The print is placed upon the tissue and cut to size, the simultaneous cutting serving to cause the edges of the tissue and print to adhere firmly to each other. They are then placed together upon the surface chosen for mounting, and pressed into perfect adherence by passing a moderately heated flat-iron over the surface of the print, which should be protected by a sheet of smooth bond or similar paper. Prints of large size can be more conveniently mounted with the aid of a burnisher in place of the flat-iron. This method will prove valuable for the mounting of prints on heavy paper, such as carbon or bromide. The suggestion is translated from *Le Monde Photographique*.

EDITOR'S TABLE.

A FINE collection of photographs of game and wild animals, taken direct in their natural haunts, has been sent us by Mr. A. G. WALLIHAN, Lay, Col. Mr. WALLIHAN'S work has already been placed before our readers in some measure, and these later photographs more than sustain the high repute he has gained in his work. We shall have more to say of all presently.

"LOOKING FOR SANTA CLAUS" is the title of a composition showing three children watching at the chimney-grate for their patron saint. It comes from the studio of Mr. A. E. PIERCE, Waterville, Maine, and does him credit. Such pictures exercise the photographers in their production, and afterward do useful work as show-frame attractions.

SOME charming pictures of children and ladies, costume portraits and figure studies have reached our table from Mr. W. F. CORE, of Lincoln, Ill. Our readers shall see them in a future issue. We congratulate our subscriber on the artistic quality of his work.

A NEW STUDIO.—Mr. EDW. G. HARRIS, of Daytona, Fla., has just completed the equipment of a new studio in the finest business block of his city. WILSON'S PHOTOGRAPHIC MAGAZINE and *Mosaics* for several years back are among his best appreciated helpers. We look for his success in the new quarters, and congratulate him on his photographic growth.

Series I. and II. of the Falk Photographic Studies have been reprinted, and may now be obtained by all who failed to secure copies of the first sets when published. Every studio worker should have them. Price, postpaid, $1 per set. When ordering state which series is desired.

NEW PRINTING-OUT PAPERS.—We have received some beautiful prints from the National Photo-paper and Chemical Co., of Springfield, Mass., made upon the new matt-collodion paper just introduced by this firm. This paper gives fine tones when treated with a single platinum bath without preliminary toning with gold.

X-RAY WORK AS A SPECIALTY.—Mr. L. H. BISSELL, President of the Illinois College of Photography, Effingham, Ill., has had such success in x-ray work that he has determined to make it a special department of his business, teaching it to the students attending his college, and practising it in co-operation with the surgeons and physicians of his city.

PASTEL PORTRAITS.—From our correspondence we see that since the publication of Mr. E. LONG'S little manual on *Pastel Portraits on Solar Enlargements*, quite a number of photographers have introduced pastel portraits with profit and success. LONG'S manual is the only instruction book needed to get an insight into pastel portraiture. It is illustrated with a chart of pastel colors. Price, $1.00, post-paid, from the office of this MAGAZINE.

R. D. GRAY'S COLOR PHOTOGRAPHS.—At the January meeting of the Photographic Section of the American Institute, New York, Mr. R. D. GRAY gave an exhibition of a large collection of his reproductions of American and foreign views in the colors of nature. The special triple-lantern made by Messrs. J. B. COLT & Co., of this city, for the projection of Mr. GRAY'S color-slides was used with complete success, and the exhibition excited an unusual amount of enthusiasm.

CARBUTT'S ORTHOCHROMATIC FILMS.—That these well-known films keep their good qualities, without deterioration, for a long period after their manufacture is well attested by the following letter:

BOSTON, Dec. 21, 1896.

MR. JOHN CARBUTT, DEAR SIR: I mail you a picture made two weeks ago, which proves how well your orthochromatic films keep. The films used in this case were purchased three years ago. The house photographed is painted yellow, with white trimmings. You will notice that the yellow portions come out very little darker than the white.

Respectfully yours,

E. R. WHEELER.

The print shows a suburban house. It is an excellent piece of work and worthy of record, considering the facts of the case.

Manual of Photography, 1896—By LIEUT. S. REBER, Signal Corps, U. S. A., San Antonio, Tex. Published for the use of the United States Army by the War Department, Washington, D. C.

In this little manual of 112 pages LIEUT. REBER has condensed a remarkable amount of practical photographic information likely to be useful in the military service. His selection of matter and its concise arrangement for ready reference merit warm congratulation. The volume is for private circulation, and, consequently, is not on sale.

Hyatt's Catalogue, No. 14, just issued by Mr. H. A. HYATT, Eighth and Locust Streets, St. Louis, is one of the biggest and most attractive temptations yet offered to the fraternity. In its 272 large pages, with almost 800 illustrations, may be found everything which the most enterprising of photographers could desire to buy, beg, borrow, or steal. Staples, novelties, specialties and extra specialties crowd and pursue each other through page after page. Its information is up to date, every improvement in photographic apparatus is recorded and illustrated, and the price of everything is given in bold type as part of its attractiveness. Every photographer should secure a copy, whether he has the money or intention to spend or otherwise. To get it you must enclose your business card with your application—"a condition made necessary by the expensiveness of the photographic free-lunch fiend," says Mr. HYATT. We cannot attempt to mention its contents in detail, but cordially refer our readers to the catalogue itself.

THE PHOTOGRAPHERS' ASSOCIATION OF MICHIGAN merits congratulation upon the beautiful souvenir issued to awaken interest in their convention, which will be held at Detroit on the 2d and 3d of this month. If the convention is as interesting as the souvenir the continued success of the Association will be assured.

THE "WORLD" SPECIAL PHOTO-FINISH BLOTTING PAPER is a new helper for the finishing-room. It is guaranteed to be absolutely chemically pure. It contains no wood pulp or clay, being made entirely from cotton rags, and, therefore, is an ideal absorbent in drying prints. *It does not lint*, and having no chemical impurities does not affect the prints. In this age of aristo prints, when the slightest impurity will affect the tone and finish, photographers will appreciate the importance of having a blotter of this kind. It is being introduced generally in the photographic trade, and you can get it of your dealer. If he does not happen to have it, send to the SCOVILL & ADAMS CO., of New York, who are the trade agents.

A Manual of Photo-engraving. By H. JENKINS. 125 pages; illustrated. Cloth-bound. Price, $2.00. Published by The Inland Printer Co., Chicago.

This, the latest, is one of the simplest and most satisfactory of the many manuals published for the process worker. According to the preface, the methods given are those day by day used in regular engraving establishments, a feature which should insure a wide circulation for the work. The illustrations are excellent examples of the processes described. Many of them are engraved from photographs by Mr. A. A. PACK, of the Randall Studio, Ann Arbor, Mich. The chapter on color work and the use of orthochromatic plates in reproduction of colored originals is especially valuable. In its make-up, typography, and binding the manual reflects great credit on the publishers.

THE GOERZ DOUBLE ANASTIGMAT has so widely increased its popularity that Mr. G. P. GOERZ, the

manufacturer, is building at Berlin-Schoneberg a new eight-story factory to meet the demands of his growing business. Over 33,000 lenses have been turned out by this enterprising house during the ten years of its existence, a fact which speaks volumes for the appreciation accorded to its specialties. The new catalogue of the GOERZ anastigmats is now ready and, with the lenses, may be obtained from the New York office of C. P. GOERZ, 52 Union Square, New York.

The American Annual of Photography for 1897, reviewed in our pages last month, is, we learn, already almost out of print. Those who desire copies should order at once to avoid disappointment. All dealers have it, or it may be had from the publishers, the SCOVILL & ADAMS CO., 62 East 11th Street, New York.

The Camera and Pen, by Mr. T. C. HEPWORTH, is the latest addition to the popular photographic library published by PERCY LUND, HUMPHRIES & CO., Ltd., Amen Corner, London. In its 64 pages Mr. HEPWORTH gives a very interesting account of the photographic processes used in making pictures for the press.

SCHINDLER'S SPECIALTIES.—In order to secure needed room, Mr. C. A. SCHINDLER, West Hoboken, N. J., offers two display specialties at bargain prices to those who first apply for them. One of these is a revolving display case, showing 224 cabinet pictures or 112 views. The list price is $24.00, the bargain price is $18.00. Another showing 68 cabinets only, the change being effected by sinply turning a handle, may be had for $12.00. List price is $18.00.

AN ALL-AROUND MAN.—Mr. A. C. MUDGE, who has had several years' practical experience in the management of his brother's gallery at Valparaiso, Ind., desires a position where his capabilities will find appreciation. Those needing a useful helper will do well to communicate with him at the above address.

"RATIONAL FLASH SHEETS" is the name given to a new flash-light specialty just introduced by Messrs. E. & H. T. ANTHONY & CO. In these sheets every grain of flash powder is effective and a solid sheet of light is produced. Their consumption leaves no residue. We predict their popularity for home work with the flash-light.

EMPIRE COLLODION PAPER.—The two varieties of this new brand of paper, glossy and matt finish, continue to grow in popularity. The matt paper especially seems to give great satisfaction to those who use it. If any of our readers have not yet tried these papers we advise them to send to the SCOVILLE & ADAMS CO., 62 East 11th Street, New York, for a sample package.

A CURIOUS PICTURE made with a lens composed of a beetle's eye, appeared in the St. Louis *Globe-Democrat* a few days ago. The picture, which was made by Dr. G F. ALLEN, Aurora, Ill., shows a separate outline of the image at which the camera was pointed on every one of the hundreds of facets which make up the eye of a beetle. A similar, better, example appears in *Photograms of 1896*.

THE SCOVILL & ADAMS CO., of New York, have been appointed trade agents for the well-known GOERZ lenses, and will, in future, carry a full stock of these objectives. Retail as well as trade orders will be promptly filled from this stock.

EDWARD P. THOMPSON, whose comprehensive book on *The Röntgen Rays* was reviewed in the last issue of the MAGAZINE, has received the subjoined letter of praise from LORD KELVIN:

"I received your book only a few days ago, but have already looked nearly all through it, and with great interest. I have seen enough to know that I will find much most useful information in it which will be always readily available, because of the very excellent method and care with which you have given reference to author, date, and publication. I am sure all who are interested in the subject will find your book exceedingly useful."

Copies of this latest and best book on the x-rays may be obtained from our office, price, $1.50, postpaid. It is a book which will interest every photographer.

THE CARBON PICTURE will be largely in evidence in 1897. Many of the best photographers have equipped themselves with a carbon printing department, and results are already beginning to come in better prices and pleased patrons. A few days ago we had the pleasure of looking over a lot of excellent examples of this beautiful process, the work of Mr. E. L. MIX, a skilled carbon printer, engaged with Messrs. PACH BROS., of our city. Referring to the article on "Carbon Printing," by ERNEST HECKROTH, given in our January issue, Mr. MIX said: "I can add nothing to its clearness or completeness." Nevertheless, we hope soon to give a paper on "Carbon Difficulties," from Mr. MIX.

WILSON'S PHOTOGRAPHIC MAGAZINE.

EDITED BY EDWARD L. WILSON.
JOHN A. TENNANT, Associate Editor.

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ON THE GROUND-GLASS.

IT was remarked by the painter Stothard that there is nothing more difficult than to paint people doing nothing. To which *The Ground-Glass* and every photographer say, "Yea, verily." In his picture representing a procession of the girls of the Masonic Charity School (in the possession of Mrs. Burdett-Coutts Bartlett), he has encountered this difficulty, and when it is considered that he was obliged to make portraits, and therefore show the faces of all the nearest figures, he has overcome it with wonderful skill. It was the straightforward simplicity and unaffectedness of his nature that led him to this triumph, and enabled him to make it one of the most original and interesting pictures ever painted. Critics say he has merely painted the facts of the subject before him; but it is to his great praise that he has done this, for a less natural painter would have spoiled the picture by embellishing it with some idealism.

The Ground-Glass would recommend photographers to secure engravings of this group for study. The works of Thomas Bewick, the admirable designer and engraver on wood, may be consulted by the student of landscape with surety of gaining ideas for improvement in his work. The backgrounds to his figures of quadrupeds and birds and his vignettes are full of the truest feeling for nature, though often representing the most common objects of country life. The head and tail pieces which ornament his books, abounding in incidents from real life, have often delighted *The Ground-Glass* and given inspiration for many artistic conceptions which *The Grouna-Glass* is anxious that others should share.

Just now *The Ground-Glass* remembers focussing especially on two of these charming vignettes. One is of a party of boys playing soldiers among the graves, mounted on a row of upright tombstones for horses. It is full of the truest pathos. Again, how full of humor is the stately march of a procession of geese which have just waddled through a stream, while their line of march is continued by a row of stepping stones.

He is equally true in his little home scenes, his farmyards and cottages, as in his wild coast scenery with flocks of seabirds wheeling around the rocks. In one of those subjects there stands a ruined church toward which the sea has encroached, the rising tide threatening to submerge a tombstone raised "to perpetuate the memory of ——."

It is just in such touches as these which

are not beyond the art of the photographer that Bewick reminds us of Burns.

The beauties of Nature are impressed on him as they are on every true photographer of landscape, directly and not at second-hand.

In a recent focussing a correspondent cried out, "Why are you everlastingly writing about Art? Art, *art*, ART." Photography without art is dead, like faith without works. *The Ground-Glass* might well say: "Show me your picture without art and I will show you mine with art." But we will add: Evil communication corrupteth good photography, for *The Ground-Glass* has been focussed on some of the work emanating from the studios, and is obliged to protest that there is too much sensationalism in photographic art. *The Ground-Glass* is sorry to observe that there is an increase in professional work, of subjects of a theatrical character verging on the grandiose and ridiculous. A return to simple themes simply rendered is devoutly to be desired.

The reproduction of what is often derisively termed *commonplace*, if sincerely and honestly expressed, will show much more taste and feeling for art than all the subjects of melodramatic inflation a perverted fancy may devise.

On a recent visit made to the dark-room of a friend, *The Ground-Glass* involuntarily exclaimed, "Why! are you not afraid to fog your plates with so much light in your developing-room?"

"No, my dear *Ground-Glass*," he replied. "You always like a good illumination on your subjects, and I hardly think the method I pursue in development will enable the light here to do injury. You will notice that the white light is bereft of much of its potency by being reflected four times before it enters. You will observe, too, that no direct light, even filtered through ruby glass, is allowed to fall on my developing trays, and during development I keep the dishes covered."

Our friend then went into detail of why he kept such a light dark-room, and though *The Ground-Glass* would neither recommend others to follow his plan, nor entirely agrees with his theory and practice of what is called auxiliary illumination, his remarks are focussed here as of interest to the readers of the MAGAZINE.

Much, *pro* and *con*, has been written and discussed on the value of supplementary lighting in accelerating the production of the latent image and in aiding the undertimed plates to build up detail. But, first, let us present the reason why our friend adopts such a method.

To secure ventilation he had come to open the door wider and wider. Under such conditions he found that he could work far more comfortably and produce work as free from fog as when the door was closed and suffocation suffered.

His work was of a uniform character, the time of exposure and the conditions of illumination were to all intents and purposes constant quantities. So that he knew that, given such and such a plate, exposed such and such a time, with developer of ascertained strength, such and such results would accrue. The remonstrances of a friend that there was really danger in working under such regulations of the dark-room induced him to shut the door and with it to shut out the attenuated light. What was his surprise to find at once that he was obliged to increase the time of exposure on his subjects or the normal developer needed strengthening to call forth the same results as before.

He persisted in attributing this difference to some other cause than the closing of the door, until he had exhausted every device to discover the *raison d'etre*, and in desperation opened the door for ventilation and thereby ventilated his difficulty also.

His theory sounds reasonable from a physical point of view. Let us see what this auxiliary lighting means. *The Ground-Glass* remembers how, a quarter of a century ago, operators sought to supplement the exposure on portraits which in wet collodion days required more time than we now give to our gelatine negatives. This was accomplished by subjecting the plate to the influence of light for a brief interval before, after, or during the exposure in the camera. It was then claimed that more detail could thus be brought out—a sort of judicious fogging you might say. Some went so far as to insert colored glass in the diaphragm that the exposed plate might receive a certain amount of light additional. Others colored the interior of the camera blue so as to reflect actinic light (a fanciful idea, of course). Whatever plan was adopted, many good operators claimed that they secured beneficial results by auxiliary illumination.

It is well known that light must act on the sensitive film a certain time in order to set in motion the particles of silver haloid. The inertia of the plate must be overcome by the impact of light before it is possible to get a latent image. Therefore it was claimed that this supplementary light acted as a spur to the tardy or flagging light. In other words, gave to the plate an impetus.

We know that even with our most rapid films it is impossible to get any action from too brief an exposure, and unless the light itself is very powerful an appreciable space of time is necessary before action is set up.

The Ground-Glass is inclined to think that the exposure of a plate to the very brief action of light, or, if the light is very feeble, for a second or so, *before* exposure in the camera, would act as a stimulant and increase the sensitiveness of the plate; but that if it has any effect whatever when given subsequent to the exposure proper, it would merely be to slightly veil the plate.

Some years ago a method of auxiliary lighting was had recourse to in printing on albumenized silver paper. It was found that if a piece of silvered paper was exposed for a short time to light no visible effect was produced. But a paper so exposed gave an image more rapidly at first than an unexposed piece of paper placed under the same negative and subjected to the same light in printing. This goes to show that the auxiliary exposure had certainly set up an accelerating action. The operation is, however, of little practical value as the spur only lasts for a short time and the print on the unexposed paper catches up and progresses along with the other, so that when both prints are finished it is impossible to tell them apart.

The coloring of the inside of the camera to reflect auxiliary light on the plate suggests to *The Ground-Glass* that considerably more light is reflected from the interior of most of our cameras than we imagine, and may be the real cause of fog on plates. Especially is caution to be taken in this direction when hand cameras are used. Often the amateur has his camera refitted with a rectilinear lens of far greater illuminating power than the one the maker first supplied with it. The consequence is that a great volume of light is carried into the box and reflected from the sides, and, when the camera is directed toward the sky or water, sufficient light enters to fog even a slow plate.

A lens, too, which covers much more surface than the plate occupies will give a circle of light extending on the sides of the interior of the camera, and rays from them might by reflexion occasion fog on a very sensitive plate.

But *The Ground-Glass* is now completely covered with thoughts on fog, called forth by this new focussing on an old problem, and must desist, recommending the study of the matter to its fellow-focussers

PHOTOGRAPHY IN THE COLORS OF NATURE.

ONCE more the great problem of photographing in colors direct from nature is announced as definitely solved, and again the discovery comes to us from France, the land of Daguerre, but, strangely enough, *via* London, and with the authoritative indorsement of Sir Henry Trueman Wood, a gentleman foremost among the leaders in English photography. The first news of the discovery reaching New York was contained in a brief cable report in the *Sun* of February 1st. From the London *Times* of later date we extract the more satisfactory account given herewith. This account is given in the words of Sir H. T. Wood:

"A further advance has now to be recorded, and one which appears to give results of much greater practical value than any of those above referred to. M. Villedieu Chassagne, of Paris, has lately submitted to the Society of Arts a process, the joint invention of himself and Dr. Adrien Michel Dansac, by which photographs can be produced showing the actual colors of the objects photographed.

"The process, a short account of which is given in the last number of the *Society of Arts Journal*, is a simple and inexpensive one. A negative is taken on a gelatine plate, which has been treated with a solution of certain salts (the nature of the solutions used is for the present kept secret). The negative is developed and fixed in the ordinary way, and when finished looks like any other negative. From it a positive is printed on sensitized paper or on a gelatine film (if a transparency is desired), plate or paper having previously been treated with the unknown solution. The positive looks exactly like an ordinary photographic print or transparency, and shows no trace of color. It is then washed over with three colored solutions—blue, green, and red—and it takes up in succession the appropriate color in the appropriate parts, the combinations of the colors giving all varieties of tint. Thus, in a landscape the trees take on various hues of green, the sky becomes blue, the flowers show their proper colors, the bricks and tiles of the houses are red, and so on. In a portrait the flesh-tints come out well, and the different colors of the costume are accurately given. The general appearance of the picture is that of a colored photograph. Looked at from a distance it would be taken for one. Inspected under a high magnifying power, it is seen that the colors follow the details in a manner hardly possible for hand-work. But without further inquiry no one would be disposed to accept such startling and novel results as genuine. Personally, I reserved my opinion until I had seen the whole process carried out under conditions which seem to preclude any possibility of deception.

"Last week M. Chassagne was good enough to demonstrate his process in the laboratory of King's College, in the presence of Professor Thomson (the Secretary of the Chemical Society), Mr. Herbert Jackson, of King's College, Captain Abney (admittedly our greatest living authority on photographic subjects), and myself. I think I may claim that we were none of us likely to be taken in over a photographic process, and we were all satisfied that the inventor really did what he professed. Authoritative evidence of this sort is only required, because, with a quite legitimate reticence, M. Chassagne keeps secret the materials he uses. From a scientific point of view this is a matter for regret, but it is idle to find fault with an inventor who expects to make a profit out of his invention, and who would probably forfeit that profit by premature publication.

The process itself seemed to be of sufficient interest to justify examination, even though our investigations could not be complete, and so it proved.

"M. Chassagne treated with perfect success some positives he had brought with him, with quite as much success as we expected some positives made by some of ourselves from negatives which we took of various test-objects. The light was extremely bad; in fact, the day was foggy, and our pictures were inferior. Still, when treated as above described, they showed color with perfect accuracy and distinctness, quite sufficient to test the process. Amongst the things we did were a bunch of flowers in a colored vase and an Indian brass pot. The latter, though wanting in vigor, showed distinctly not only the color, but something of the metallic lustre of the original. Without information as to the materials used, it seems hardly worth while to hazard any guess as to the nature of the process. Certainly there is a good deal which is new, even mysterious, about it. Nothing we know about the action of light justifies us in believing that it can affect the components of a photographic film (either the silver salts, or the colloid vehicle which contains them, or any combination of both) in such fashion as to give them a capacity of selective absorption, the power to take up specific colors from mixtures of various dyes. And if this is difficult to accept, still more difficult is it to believe that the power can be transmitted through a monochrome negative (in which it, so to say, remains latent) to a positive. Still, those who have seen the results attained are forced to admit their possibility, though they may be unable to hazard any conjecture as to the nature of the reactions which take place.

"Further and independent investigation will no doubt throw some light on the principles involved. At present no explanation can be offered. The inventor himself does not profess to offer any, and until further information is available all speculation must be but mere guesswork. It is to be hoped that he may soon be in a position so to protect his rights as to enable him to give full details about the materials he uses, for the subject certainly looks as if it would repay scientific examination and increase scientific knowledge."

The method is said to be very simple in manipulation, and the materials are not expensive. Further details will be looked for with much interest.

DEVELOPING WITH TRI-SODIUM PHOSPHATE.

BY F. L. PITTMAN.

TRI-SODIUM phosphate, which has recently been proposed as a substitute for the alkali commonly employed in the developer, has not, as yet, come into general use, partly for the reason that it is not readily obtainable in many localities. Soon after reading the accounts of its use for this purpose, published in the photographic journals, I obtained a supply of the salt and made some experiments with it in the developer, and a few notes on the salt and its action may be of interest.

Tri-sodium phosphate, having the chemical formula Na_3PO_4, is the most basic of the salts of orthophosphoric acid. It may be prepared by the addition to a solution of the ordinary phosphate, Na_2HPO_4, of an excess of a solution of caustic soda, the reaction being as follows:

$$Na_2HPO_4 + NaOH = Na_3PO_4 + H_2O.$$

This solution is then evaporated to saturation and allowed to cool, when the tribasic phosphate crystallizes out. The crystals are then to be drained, dissolved

rapidly in twice their weight of hot water, and the solution allowed to stand to crystallize. The salt thus obtained is in the form of six-sided prisms containing twelve molecules of water of crystallization. It is soluble in about five parts of water at 60° F. A solution of this salt has an alkaline reaction, and, on exposure to the air, absorbs carbonic acid, being converted into the ordinary di-sodium phosphate and sodium carbonate; hence it is important to keep the solution tightly corked until wanted for use.

In making my developer I prepared two solutions as follows:

No. 1.

Sodium Sulphite, crystals	3 oz.	or	90 gms.
Water	45 "	"	1350 c.c.
Eikonogen	1 "	"	30 gms.

No. 2.

Tri-sodium Phosphate	3 oz.	or	90 gms.
Water	15 "	"	750 c.c.

For use, take of No. 1, 3 ounces (90 c.c.) and of No. 2, 1 ounce (30 c.c.), adding water if the developer works too rapidly, and bromide solution if desired in case of over-exposure.

This developer I find works very evenly and brings the negative up to a fair density. With most plates the amount of No. 2 may be increased at will without causing softening of the film, and with little danger of fogging, although some makes of plates do not take so kindly to a strongly alkaline solution as others. As an extreme test, I subjected a plate to the action of a saturated solution of tri-sodium phosphate, and then completed the development, obtaining a good negative. The fact that the proportion of alkali may be increased to such a great extent is of great advantage in the treatment of under-exposed plates, as it allows great latitude in mixing the developer and in adjusting its composition to suit the particular exposure.

For the benefit of those who may be unable to obtain tri-sodium phosphate from local dealers, I will state that I have always been able to obtain it from Eimer & Amend, 205 Third Avenue, New York. The cost is about sixty cents per pound.

ABOUT REDUCING PRINTS.

BY W. H. SHERMAN.

SEVERAL years ago I found that Howard Farmer's process for reducing the intensity of negatives with the red prussiate of potash could be used to admirable advantage in reducing over-printed silver prints, and sent an account of its performance to the *Mosaics* (if I remember rightly). At any rate, I kept on using it with much satisfaction, for although the best way to print is to print just right, yet when the light is very strong and a good many frames are out, some negatives printing fast and some slowly, it is one of the easiest things in the world to get some prints too dark. It is not absolutely certain that employers always know just how many spoiled prints have been side-tracked before arriving at their destined goal (gold !). So I thought then, and still think, that a simple, easy, and thoroughly practical method of saving an over-dark print is a good thing—especially when it is oftentimes more trouble to make a new one than it is to save the one already printed. For instance, the other day the light was weak, but, wishing to complete an order, a number of frames were set out in the morning and only a part finished at night. The rest waited over for the next day. Well, one of the latter got over-printed, and consequently still another whole day would be required to replace it. Instead of this provoking

delay the black print was toned and reduced, coming through as good as the best in the lot.

After recommending this process, as above referred to, I was not pleased a little bit to read an article by Mr. Baker, of Buffalo, in which he said he had tried it and found it unsatisfactory, concluding by saying that the best reducing agent was taking prints in when they were printed enough, or words to that effect, and that when one happened to be a little too dark the best way was to leave it in the hypo until it was light enough. My experience had been given in good faith, and it was singular, so I thought, that Mr. Baker's should be so entirely different.

But having used up the solution which I had on hand at first, and after making up a new one, the reason for his disapproval was not long difficult to understand. The new solution was uncertain in its effects, excepting that it was pretty certain to spoil the prints one way or another. At one time they would come out with a mottled appearance as though afflicted with measles; at another time they would present a different kind of spottiness, and still another, the tone would be disagreeably changed. What was the explanation? Was the printing bath to blame? Or had the ferricyanide undergone a change from being kept in a paper package or from some other cause? To test this supposition a new sample was obtained in a tightly corked bottle, and tried after a new printing bath had been made, without any material improvement in results. Still these spoiled prints were good enough to experiment upon, and once in a while they would come out all right; often enough to make me wish that might be the rule rather than the exception.

Now, finally, the secret is out, unless I am worse mistaken than in the first instance. What do you guess the secret is? It is so simple that I am tempted not to tell. You would not guess that such a little thing as keeping a bottle in the dark would so affect the contents as to change them from being a print destroyer into a print restorer, would you? It is no new thing—this keeping the bottle in the dark. Many a reputation has been saved by this simple dodge. Why not try it on a photographic solution as well? It may save the process. The fact is, I did try it on the ferricyanide solution, and— it did not work. But it had found its place in the dark-room, and there it was always to be found when wanted for a negative, and there it stood for years.

At last, after a long "hot and cold" (mostly cold) search for the little hidden thing, here it is right before your face in broad daylight. All that is necessary is to make a saturated solution of ferricyanide (red prussiate) of potassium in a white glass bottle and keep it in diffused light. Mine stands on a shelf near the skylight. Just how long it has taken to ripen, so to speak, I cannot tell. What I know is that it acts on a too-dark print like a charm. Here is the way to use it: Take of the fixing bath and water about equal parts, sufficient to immerse any print which needs reducing; add enough of the reducing solution to change the color of the other to about lemon-yellow, and mix well. If the prints are thoroughly toned and fixed they may be taken directly from the hypo, or they may be placed in the first washing water over night; in the latter case they may be taken out of the water and laid into the fixing bath again. Lay one at a time face down into the reducer, and quickly turn it over. As soon as it is as light as you want to have it, place it again, after draining, into the hypo for two or three minutes, then transfer it to the water with the other prints. A little practice will familiarize one with the details of the operation.

As it requires considerable time for a

moderate light to overcome the harmful properties of this solution, it is advisable to prepare a new one by the time the old one is half used up. It is quite likely, however, that a short exposure to direct sunlight may have the same effect. I intend to try this with the next new solution that I prepare.

THE COPYRIGHT QUESTION.

RESPECTFULLY DEDICATED TO MR. B. J. FALK.

BY D. BACHRACH.

IF I can add my mite to the effort my friend Falk is making toward this necessary protection of the photographer's skill, efforts, money, and labor, and thereby advance the cause, I will cheerfully do it. I must, however, again call the attention of the fraternity to what seems to me the only practical plan to make it of benefit to *all* photographers, not merely to those largely engaged in theatrical work and pictures for general publication. The present cumbersome method of copyrighting each picture is outrageous and useless. It is outrageous on the photographer, on account of the tax, and useless to the government, because it neither yields revenue nor prevents litigation. I make a broader claim for the photographer than the common-law decision that in all sittings that are paid for the copyright is vested in the sitter. I claim that the sitter actually pays for only the *pictures* he receives, *the finished product.* The ownership of the negative, pose, character, and artistic quality is, of right, vested in the photographer (except specially agreed otherwise), *in so far as any other use is to be made of the pictures for reproduction,* whether by a portrait artist, photographer, or publisher. And when we can get this equity enacted into law by Congress we will be far on the road to increased compensation for our skill.

In order to accomplish this we need only an intelligent appeal and agitation of the subject before Congress to obtain what we wish. An organized effort is necessary. The practical details of the plan I have in view are very simple: My first idea was a provisional copyright for five years on all the productions of the photographer, artist, engraver, or worker in any of the allied arts; but I now think it ought to be ten years. The plan is for any photographer, for instance, to stamp all his work with the month and year of making the negative, and the word "copyright" or "protected," or some similar word. This should, by law, have the force of copyright without further proceeding. No one should then, under the provisions of the act, have the right to reproduce the same without the consent of both the photographer and the sitter, or their heirs and assigns. In the case of celebrities or public men, when the sittings have not been paid for, the photographer alone should have the copyright. A provision should be inserted in the proposed law by which the sitter may have the right of reproduction from his own prints by giving the photographer one month's notice of his intention, and of the *kind and size* of the reproductions. This would give the photographer a chance to put in a bid to retain the benefit of his own skill, and at the same time not put the sitter completely at the mercy of the photographer. Of course the right of special contract should not be interfered with.

A careful examination of these propositions will convince anyone of the immense benefit this act would be in enabling us to do away with a large amount of the abuse

of promiscuous cheap copying of our work. The justice of the proposition cannot be questioned. It is not even right to call it "protection," I dislike the term; it is only guaranteeing us our property in our own brains and hands. Under such a law every man of skill would be enrolled in the "Copyright League," not merely those who pay their dollars for copyrighting their pictures for publication. The best argument of all is it would be *dollars* in the pockets of every photographer who makes sittings or any other original work, and would not take a dollar from the government. What say you, photographers? Will you take a hand in it?

NOTES ON CARBON PRINTING.

BY E. L. MIX.

In his article on carbon printing, given in the December number of the Magazine, Mr. Heckroth has so fully dealt with the working of this beautiful process that it is not easy to add to the completeness of his description. The several kinds of tissue now on the market, with the varying results obtained by workers under different climatic conditions, would seem, however, to leave room for a few notes concerning unlooked-for failures and their remedy.

Insolubility of the carbon tissue is one of the commonest troubles. It has several distinct causes; often it is simply the result of an excess of bichromate solution in the film. The remedy is to carefully remove from the surface of the film all superfluous solution on taking the tissue from the sensitizing bath. For this use a squeegee, or draw the tissue over a glass rod as in silvering albumen paper. Slow drying or too strong a sensitizing bath in hot or moist weather will also produce insolubility.

Blisters or small air-bubbles are defects which worry the inexperienced beginner more than the expert in carbon printing. They may occur in single and double transfer prints, and are generally caused by lack of thoroughness and sufficient pressure in squeegeeing the tissue to its support before development. The application of sufficient force, distributed evenly over the whole print with a reliable squeegee, is the obvious remedy. When the pressure in this operation has not been sufficiently strong there will occur in the development of the print light spots surrounded by dark circles. These are difficult to remove completely, but by the application of a small stream of warm water the spots affected will be reduced and disappear on drying. The breaking or creasing of the temporary or single transfer support should also be avoided as a certain cause of blisters. Air-bubbles or blisters which must be faced can be partially treated by pricking them from the back with a needle; when the second transfer has been made and the print mounted, the bubbles may be scraped with a sharp knife, and spotted in such a way that they will not show. Another cause of blisters is the presence of air in the pores of the tissue. When the tissue is placed in warm water these air-spaces expand. By placing the mounted print in cold water for a few minutes the air will be expelled and the trouble remedied. Too hot water will also cause blistering of the film. A temperature of from 95° to 100° Fahr. is most generally advisable. If hotter water is required raise the temperature gradually.

A frequent cause of bubbles is the making of the transfer too soon, before the tissue has become perfectly soft and limp. By allowing the exposed tissue a sufficient time in water before transferring this may be easily remedied. If, however, the tissue

is permitted to remain in the water too long before transfer, it will not adhere firmly to its support. In such a case, place it (on its support) under heavy pressure for about fifteen minutes and no trouble need be apprehended.

Always keep the temperature of the sensitizing bath and the water for making the first transfer below 58° Fahr. In summer use ice and reduce the temperature even as low as 45° Fahr. Unless this has attention the water and natural temperature of the hands will cause the black gelatine of the film to run off the paper in streaks. When this occurs in sensitizing it is a sure indication that the temperature of the bath is too high. By adding 90 to 100 grains of salicylic acid to the sensitizing bath during the summer you will avoid reticulation. If the picture shows reticulation or granulation it indicates too rapid drying, or was not allowed to remain a sufficiently long time in contact with its support in transferring. Tissue which has been dried too quickly is often extremely soluble and will not give pictures possessing strength or richness of tone.

Avoid touching the surface of the tissue at all times with wet or perspiring fingers. This will save a lot of work in spotting the pictures. A good plan is to wear thin cotton gloves; this prevents the trouble just mentioned and facilitates the handling of the paper.

Finally, learn the value of a piece of good ink eraser in improving the finished carbon print when perfectly dry on its mount. By the judicious use of this helper heavy shadows may be gradually reduced, want of details in the half-tones remedied, and brilliancy given by touches applied to the high-lights.

WHAT THE LANDSCAPE-WORKER SHOULD LOOK FOR BEFORE HE SETS UP HIS INSTRUMENT.

BY W. B. SWIFT.

THE value of knowing another man's method is incalculable, especially to the beginner in art. It is, however, dangerous to some. The question depends entirely upon the one that uses it, and if he adopts it as an authority beyond whose dictum he must not go, or even venture to think, it is apt to confine him and limit his possibilities. On the other hand, if he looks upon another's rules simply as a starting-point, and works in accordance with them with the idea of using them simply as a stepping-stone to the establishment of his own methods, he has done the wise thing.

He who ignores the methods of others in art has to go through a long and tedious process of discovering rules for himself, and when he has discovered them he finds they are the same rules that others have been working with all the time, and then sees how mistaken he was to work so at random and not adopt them in the first place.

Life is too short to discover everything ourselves. Let us all learn the methods of others, and when we have digested them, if discovery is what we are after, many of us will find fields of yet-undiscovered territory beyond what they have found. It is with this truth in mind that the following brief outline of an artist's initial process is presented, with the hope that, to the beginner at least, it may be of some little help.

Many of us are perplexed to know what to look for before we put up the camera, and yet, as we stop to think of it, it is very simple. There is only one thing—it is a principal idea. The idea suggests itself to the observer by there being such a combi-

nation of circumstances in nature as to tell a story, excite pleasurable feelings, or suggest beauty.

This idea must have three requisites. Of course, it must be an idea that the instrument can take, or it would be of no use to the photographer. The picture as a whole must not contain any incongruous ideas. Therefore the idea must be such that it can be carried out in its details. The purpose of art is to give pleasure. Therefore this idea must give pleasure.

The idea, then, has the three characteristics: the capability of being photographed, the capability of its expression in detail, and pleasing. Let us consider briefly these three. The last two points seem to require only a passing word.

By practice only can we tell when the idea is lost in being photographed.

If the idea is not carried out in the details complexity is introduced and we lose our most valuable characteristic—simplicity.

The pleasure a view is to give must be something deeper than a passing delight. It must, like character, have permanency, so that the possessor of the picture grows more fond of it the more he looks at it.

The eye of a true character can look us steadily in the eye, and we seem to feel a flow of innocence from his noble face. The eye of the immoral man stares at us for an instant and sinks when we turn on it, and we feel that sincerity there has only a fleeting residence. It is a similar feeling we all have in viewing the results of high art and the mere matter-of-fact reproduction. The matter-of-fact view we hardly care to look at twice. The *picture*, a result of high art, is a constant flow of pleasure drunk in by the soul. This lasting pleasure is, of course, obtained, more than in any other way, by fulfilling the laws of art throughout the view, and especially the one where the "art conceals the art;" but just what aspect the view should have when we first see it that will at last result in this is what we want to know.

The chief thing is simplicity. Complexity puzzles the mind and confuses the feelings. Simplicity holds the attention, invites consideration, and moves the feelings.

There seem to be some who find it impossible to find ideas in nature. This, in a way, of course, is sad, but can be remedied. The simple reason is because they have not exercised their faculties in observing to any great extent the beautiful in nature. It would aid them to visit the galleries and meditate upon paintings of landscapes; or if such a one will obtain even a single excellent photograph of a landscape (which we all know are none too common) and study it, he will find that as he "examines it again and again at his leisure point after point clears up, and things not fully understood at first glance become apparent, and all his whys and wherefores are finally answered."

In this way the mind is exercised along the right lines, and after that will easily discern the combinations in nature that make the charming story or pleasing picture.

PLATINUM EFFECTS WITH PRINTING-OUT PAPERS.

THERE is a growing favor for tones on printing-out papers which approach the effects produced by platinum. The recent results which the new varieties of bromide paper have yielded make it a desideratum to obtain like tones with aristo matt-surface prints.

There is before me a beautiful specimen on aristo-platino, made by J. W. Kellmer, Hazleton, Pa., which can hardly be distinguished from a sepia carbon print.

Even when the directions of the paper-makers are strictly followed the results are

not always what we long for. I think very much depends upon the character of the negative. It is impossible to get a pleasing platinum tone from a thin, poor negative, no matter what formula is followed, and I am inclined to think that the beautiful print, above referred to, owes its charms to the excellent quality of the negative.

Sometimes bleaching with bichloride of mercury, followed, after a thorough washing, with sulphite of soda gives a fine sepia image, but only with the collodion papers, not at all with the gelatine. With the latter variety of paper its action serves to harden the surface so that all its mercurial salt cannot be washed out and there is generally a stain.

Bromide of copper, the other bleacher, worked better with both varieties, but a solution of bichromate of potassium and hydrochloric acid is a better bleacher than either of the above and works more quickly.

Take:

Bichromate of Potassium	30 grains.
Hydrochloric Acid	1 drachm.
Water	3 ounces.

After bleaching wash the print until all the yellow tint is removed, and then redevelop it in a rather strong fresh solution of ferrous oxalate. Take care not to expose the print too much to light before treatment. As oxalate, despite its virtues, is now seldom found in our photographic laboratories, metol or the other new reducing agents may be employed advantageously as a substitute.

They should, however, be used very nearly of the strength employed in negative work, not as dilute as for bromide prints.

Take:

A.

Metol	75 grains.
Sodium Sulphite	2 ounces.
Water	20 "

B.

Carbonate of Potassium	¾ ounce.
Carbonate of Sodium	1 "
Bromide of Potassium	10 grains.
Water	18 ounces.

For use take equal parts. Amidol or hydroquinone may be used in place of metol. If the developer employed is weak gray tones result, not unlike a fixed untoned print.

Some years ago M. Carey Lea proposed the use of benzoate of ammonia and chloride of gold for obtaining beautiful black tones on albumen paper. This suggestion seems to have been overlooked by the aristo printers. I find it to work well with a number of the brands of aristo paper, matt and glossy; but employ it much more diluted than in the formula given by M. Carey Lea. The original formula will be found in Wilson's *Quarter Century of Photography*, and also in *Photographics*.

I find that 2 grains of chloride of gold added to 24 ounces of water with 10 grains of benzoate of ammonium work well. The fixing is done as usual in a weak, clean, fresh bath of hypo-soda. The tone is a deep purple-black. J. B.

As supplementing Mr. Bartlett's contribution we extract from the last number of the *News* some interesting notes on the toning of gelatino- and collodio-chloride papers with platinum.—Ed. W. P. M.

"The purpose of platinum toning as applied to gelatino-chloride paper, particularly the matt-surface kind, is the obtension of warm sepia or brownish-black tones unattainable with gold. The normal method of platinum toning is as follows: The print should be first soaked in salt and water for about five minutes, then well rinsed and toned in a bath composed of—

Potassium Chloro-platinite	2 grains.
Phosphoric Acid, dilute	½ ounce.
Water	8 ounces.

and then washed or, preferably, placed in a bath of carbonate of soda, 2 ounces,

water, 20 ounces, and then fixed. The use of this bath prevents any acid from being carried into the fixing bath, and thus prevents the decomposition of the hypo and consequent yellowing of the print. Whilst the particular formula given above is one which in our hands has given good results, it by no means follows that other baths will not act as well; but there is this much to be said that all baths in which mineral acids, such as nitric or hydrochloric, are used have a tendency to yellowing of the whites of the print. The exact concentration of the bath is not of much moment; the stronger the bath the more rapidly it tones and the blacker the color. There is, unfortunately, no guide from the appearance of the print as to what the final tone will be, and this must be entirely a matter of experience, for, as a rule, the print appears of a most brilliant purple even when it fixes out to a light sepia. It is not possible by using this bath alone to obtain pure blacks or even grayish blacks, but if prior to the use of this bath the print be toned in an ordinary acetate gold bath till it has assumed a purple hue when examined by transmitted light, and be then washed and toned in this bath, very much deeper tones are obtained, and, in fact, an engraving black—that is, one with a slight brown tinge—can be obtained. There is one point in connection with the use of chloroplatinite which may not be generally known. If about half a grain of chloroplatinite be added to the sulphocyanide or other gold bath very much deeper tones can be obtained, and rich purple tones can be most readily obtained in this way; but the bath will not keep—in fact, not long enough to enable more than one print to be toned in it. This is due to the fact that the platinum salt reduces the gold which separates out for preference first on the print, but afterward on the sides of the dish or bottle.

"Lainer, one of the professors at the Imperial Institute of Photography at Vienna, who has paid special attention to the preparation and toning of matt gelatino-chloride and collodio-chloride papers, publishes in this month's number of the *Photographische Correspondenz* a method of toning which gives pure grayish-black tones, very similar to platinotype. This process is as follows: The prints, which must be rather deeply printed, should be washed in plain water for about ten or fifteen minutes and then immersed in an acetate bath composed of—

Borax	100 grains.
Acetate of Soda . . .	100 "
Water	20 ounces.
Chloride of Gold . . .	10 grains.

till the red color turns to a brown. The print should then be washed and placed in the platinum bath, which is just half the strength of that we have recommended above. The print should then be well washed, and, if black or grayish-black tones are required, fixed for about five minutes in a 10 per cent. solution of hypo, and then washed and finally immersed in what Lainer calls a clearing bath composed of

Chloride of Gold . . .	2 grains.
Ammonium Sulphocyanide .	2 ounces.
Water	20 "

in which the prints should be allowed to remain for from five to fifteen minutes and then well washed and dried. So far as our experiments with this bath have gone, it seems the best method of producing on matt-surface gelatino- and collodio-chloride papers the tones which are so much sought after with printing-out papers—viz., those of platinotype and bromide paper, gray and brownish-blacks. It is therefore well worth trial by our readers."

It should be remembered that when prints are to be given several baths, care must be taken not to degrade the whites by too frequent examination during printing.

STUDIO BLINDS AND REFLECTORS.

EDWARD DUNMORE in a recent number of the *British Journal of Photography* says:

"The most important difference between the domestic window blind and those for studio use is, that in the one case their sole use is to reduce the general illumination of the apartment, and in the other to reduce it partially and locally without any regard to the remaining space. No special kind of blind can be recommended for indiscriminate use in all studios—the position and form of the glass-room must determine the most appropriate device. It is, however, imperative that one and all fulfil certain conditions, and be under easy control of the artist.

"Primarily, they must obstruct the passage of all direct light, and be so under control that light may be admitted at any place and any angle the operator may think fit, and that with a celerity and a minimum of trouble. Formerly, the special lighting was almost entirely limited to the end of the studio occupied by the sitter; in these days there is no special place for the sitter, who is posed anywhere in the studio that may suggest itself to the artist as suitable for getting the effect he desires. This necessitates the arrangement of blinds that cover the whole of the glass, and that can be withdrawn at any point independent of the rest. It is a golden rule to have *no more* light than is necessary for the effect desired. If we adhere to this, we improve the brilliancy of the image wonderfully, without in any degree lengthening the exposure. It was with this idea tunnel studios were constructed, and, when the model was always placed within a few feet of the end of the room, there was much to recommend them; the eyesight of the operator was certainly advantaged. When every exposure had to be developed immediately after it was made, the continual change from the light to the gloom of the developing-room was very trying. The tunnel form in a measure removed this, preserving a much-reduced light for manipulating the camera, so much so that focussing cloths could be dispensed with, and the movements of the operators be less observable from the sitter's position; the two latter conditions would even now be an advantage where the model is placed before a fixed background.

"Perhaps the most generally popular and useful form of studio is the oblong, with a ridge roof, supplying a north light —a more equable light than any other, and, consequently, more easily managed, and one by which almost any, except direct sunlight, effects can be obtained. By having the south side made substantially of bricks and mortar, and the roof slated, unpleasant summer heat is very much modified; the advantage of a moderate temperature is more than equivalent to the extra glass area. One window of moderate dimensions may be useful in the roof, and a similar one in the wall on the sunny side, to lighten the shadows, in place of reflectors; but, as I have remarked, a solid heat-resisting wall is the principal thing, and we do wisely to sacrifice a little light for this result. In this connection a blind or rather a canvas sheet, stretched over, and a few inches above, the roof, moistened with jets of water from a pipe laid along the ridge, is a very effective means of reducing the temperature in sultry weather; otherwise, outside blinds are not much use in a studio of this form, for, with the exception of a short time in the middle of the day in the height of summer, no direct rays enter the studio. The advantages of covering the whole of the glass with white paraffined paper, irrespective of blinds, is a means of getting very soft

images, with very little difference in exposure to unobscure glass; in fact, if the studio is much surrounded by high buildings or trees, the light will be increased rather than diminished. The paper may either be attached to light removable frames or permanently to the framing of the glass. This kind of paper remains colorless a long time, and, in case of damage, is easily replaced.

"With respect to the blinds proper, they consist of two sets, white and opaque. The dark ones are made of green or dark blue material usually employed for the purpose. Green retains its fresh appearance rather longer than the blue; in other respects they are equal. The side blinds should not be more than two or two and a half feet wide, attached to spring rollers at the bottom. The plan of drawing them down from a fixed point at the top is a decided waste of power, and induces certain troubles in lighting the sitter that the opposite method entirely avoids. The roof blinds consist of two separate sets, meeting in the centre, their number, of course, depending on the width of the skylight. Two sets of three each are generally sufficient, the edges overlapping, say, one width near to the glass and two widths a little below it. The wall ends are permanently fixed, and the free ends stiffened with laths. These blinds run on wires passing through rings sewn to the blinds, and are moved by endless cords passing to and fro through pulleys. The operator can stand in front of the model to adjust the lighting exactly to his taste without the objectionable walking backward and forward to make little alterations. A very few inches more or less light will make a great difference in the character of the illumination, and the fact of occupying a position during the adjustment from which every slight variation can be noticed is a great assistance that must be experienced to be fully appreciated. Additional blinds of blue gauze merely hung on cords across the studio, and moved somewhat after the style of hoisting a sail on board a vessel, will be found of use. When the sitter is troubled with weak eyesight, it will with very little difference to the exposure, if any, afford considerable relief, and permit the pupils of the eyes to expand, thus improving the expression. The foregoing are all the fixed blinds required for the average glass-room.

"The up-to-date photographer is not content with the limitation of two ends of a room, but will place his model in various parts of it. Two or three small movable backgrounds come in useful for special effects. If a kind of tunnel is made—by placing two backgrounds parallel about five feet apart, and throwing a curtain or cloth over the top, the sitter being placed a short distance from one end, and the camera at the other—very delicate effects of shadow may be obtained, regulated by the distance the model is placed from the tunnel, a suitable background being contrived from the accessories available. This device is, I think, one of the best for obtaining effects in fancy lighting I know of, being very much more under control than when the open studio is used, and being, so to say, independent of any peculiarities in the construction of the room.

"Hand in hand with blinds are reflectors. Their usefulness depends very much on the kind of glass-room and the color of the walls and surroundings. A predominating pale blue or drab tint is almost equivalent to reflectors, and, with the lighting arranged as described, reflectors are almost a superfluity; however, supposing the walls and surroundings are dark, they become absolutely necessary. They may be made somewhat after the fashion of a swing mirror; a light wooden frame, three feet wide by four long, covered with white material on one side and blue on the other, will be found most useful.

Platinotype Paper. The growth of the popularity of platinotype prints has brought us many inquiries whether photographers cannot prepare their own paper in small quantities as desired. Our advice on this point has been that it is simpler, cheaper in the end, and more satisfactory to get the paper from the manufacturers, Messrs. Willis & Clements. For those who desire to experiment, however, the subjoined formulæ from the *Amateur Photographer* may be useful. Make two solutions:

A.

Potassic Chloro-platinite .	60 grains.
Distilled Water . . .	4 drachms.

B.

Ferric Oxalate . . .	60 grains.
Water	4 drachms.

Keep in a dark place. For use, mix equal parts of A and B, and coat arrow-root-sized paper with it by means of a tuft of cotton-wool or piece of soft sponge. The mixed solution must be used within ten minutes to secure the best results, and the coated paper must be dried quickly before a fire. Develop with

Sodium Citrate . . .	120 grains.
Water	1 ounce.

Acid bath and washing as usual.

Hoffman's Method of Printing in Clouds, as given by Richard Penlake in a recent issue of *Photography*, is as follows:

"The negative is placed in the frame, and printed in the usual manner until almost ready to be taken out. Then take a large magnifying glass, say about six inches in diameter, and with it condense the sun's rays on the sky of the negative. Move the glass slowly around until clouds are produced of the required shape and intensity. This can be done in such a very artistic manner by an adept that it will deceive an expert. Of course it will require considerable practice. By condensing the rays to a moderately fine point smoke may be made to appear from the chimney of a house in the picture, and by slowly describing circles, which grow larger and larger, and drawing the lens further and further away from the negative, he smoke will fade away into the sky."

Process Plates (dry) suggest themselves as suited for many uses outside of process reproduction. Properly handled they will be found to give results superior to those secured with an ordinary rapid plate in photographing interiors, copies, printed matter, MSS., etc.

Clouds in Lantern Slides. The most direct and satisfactory way to combine landscape and cloud prints is first to make a satisfactory plate of the landscape part. Then on another plate make a copy of the cloud, but when copying the cloud through the camera turn the cloud negative the *wrong way* round—*i. e.*, make a reversed image. Develop, fix, and wash in the usual way. Then with a very soft brush and some freshly mixed ferricyanide and hypo reducer remove from the cloud plate that part which corresponds to the part of the landscape as far as the sky line. This being satisfactorily done, both plates are dried and then brought film to film, and the two are bound together. Thus the cloud plate takes the place of the usual cover glass.

This method has several advantages: (1) the effect of different "cloudscapes" can be tried with the same foreground; (2) the cloud and foreground parts can be made (if so desired) of slightly different tints; (3) if the clouds are too dense or not strong enough, they can be reduced or intensified according to the requirements of the case without altering the foreground plate.—F. C. L., in *Amateur Photographer.*

J. Wesley Allison. *Philadelphia.*

THE OLD MILL

THE PENNSYLVANIA CONVENTION.

L. V. Kupper, Phot.

VIEW OF THE CONVENTION HALL—ART DEPARTMENT.

THE first annual convention of the Photographers' Association of Pennsylvania, held at Harrisburg, January 26th, 27th, and 28th, goes into history as one of the most successful meetings organized and carried through by our State Associations. The photographers of the State were enthusiastic in their support, in attendance, as well as in their exhibits of work. They had the hearty co-operation of prominent workers in other States, such as S. L. Stein, George G. Rockwood, E. E. Curtis, and Pirie MacDonald, who either attended in person or sent selected examples of their work. The trade department was sufficiently complete to be instructive without being a hindrance to the practical work of the convention. Too much praise cannot be given to the officers, Messrs. M. R. Hemperley, G. Taylor Griffin, J. B. Schriever, E. E. Seavy, and W. J. Goldman, to whose careful planning and untiring efforts the success achieved was due. The Harrisburg committee, formed of the local photographers, did everything within its power to provide for the comfort of the visitors, and the local press accorded the convention an abundant measure of publicity.

The first session of the convention was opened by President M. R. Hemperley at 10.30, January 26th. About a hundred photographers were present. Mayor Patterson welcomed the fraternity, speaking of the many notable gatherings held in the capital city, and of the progress of photography during the past few years. To this President Hemperley responded with his report, as follows:

On behalf of the Association, I offer

Mayor Patterson our appreciative thanks for his presence and warm welcome.

My report at this, our first convention, cannot, of course, be very lengthy nor voluminous as to its recommendations for your future guidance, for one short year of experience has scarcely removed us from our swaddling clothes or advanced us far enough to ripen our judgment for action. Yet that one year of our existence has brought plenty of work to your Executive Board, and with it has come a development of ideas and suggestions for facilitating the progress of the Association's usefulness to its membership and its importance to the public. To those who have given real thought to the possibilities of an organization of this kind, the scope of its true sphere lies far above the mere coming together of its members and distributing among them a few paltry prizes. Of course, therein lies the encouragement to greater effort, and the hope of a general betterment of the art of photography. But the strength of our organization and the healthfulness of our existence will wield a powerful influence upon the public mind as to the importance of giving photography its rightful place, clothed with all the dignity and respect conceded to the finer arts to-day. And on this line of thought I would earnestly urge all photographers to give serious consideration, so that they may see that the hearty co-operation of each one in such an organization as ours is a duty which concerns not only their individual benefit, but that their helping hand is an added power toward the uplifting of the whole craft. We have passed through none too good a business year to the most of our members, and business depression is always discouraging to healthy membership in organizations. Yet I think we have every reason to be grateful for our strength to-day. We will soon be rolling on to a success little thought of by the few originators of this Association. Your Executive Board has, of course, made mistakes. We can see some of them now; are willing to admit them and be forgiven. Many things have perhaps been left undone. But our lack of experience must appeal to your leniency. If our humble efforts as pioneers shall have shorn away some of the thorns from the pathway of our successors we shall feel amply repaid.

Mr. Charles Hetherington, of Chicago, then gave an address full of useful hints concerning the over-illumination of the operating-room, copying, retouching large heads, double exposures for odd effects, the use of a dark green baize screen in front of the camera in photographing a sitter wearing glasses, to prevent reflection, etc. Mr. Hetherington showed a number of photographs as illustrative of his remarks, and his quick criticism of the good and bad features of the pictures was much appreciated.

A committee on nominations for officers was then appointed, and after discussion it was decided that the 1898 convention shall be held at Altoona during the last week of February of that year. Mr. W. B. Schrieber, of Philadelphia, delivered a brief address on the advantages of copyright to the photographer. At his suggestion the President afterward appointed a committee to draft a resolution expressing the opinion of the Association in the matter.

W. C. South, official photographer of the Erie Railroad, read an instructive paper on "Art Helps," showing his hearers how to make pictures, how to classify subjects, and the appropriate treatment of the picture according to its character. The session then adjourned.

The afternoon session was called to order at 2 o'clock, over 140 members being in attendance. The President announced that the special prize offered to the person securing the greatest number of members

for the Association during the year past had been won by Mr. Roger L. Kirk, of the Wilson-Hood-Cheyney Co., Philadelphia. Mr. Kirk, who had added 54 names to the membership list, responded in a few words. The prize was the gift of Mr. W. P. Buchanan to the Association.

C. O. Towles, Frostburg, Md., followed with a paper on "Art in Photography," urging photographers to study the laws of art and strive for artistic effects. His remarks were warmly applauded. The Secretary then read a paper by Abraham Bogardus on "Ideals in Photography and the Good of the Association." Mr. Bogardus was afterward honored by being elected an honorary life-member of the Association. Various members present then discussed the keeping qualities of print-out papers.

At the evening session, which began at 7.45 o'clock, Mr. George G. Rockwood, of New York, gave a most interesting lecture on the "Treatment of Subjects Under the Skylight." He said in part:

"To formulate or explain the art or methods used in posing the human figure is no easy task. Circumstance, place, and subjects are ever varying and need varying consideration. Since subjects are thus versatile in their presentation, we cannot consider rules, but should discuss principles. Rules are arbitrary, and, if applied to art, are met by innumerable exceptions; whilst principles, if understood, are always flexible and certain guides to successful results. So, in speaking of methods in portraiture, we can only make suggestions which are covered in the word 'principles.'

"In the application of photography to portraiture we exercise very much the same methods in lighting as would give good

L. V. Kupper, Phot.

COMPLIMENTARY EXHIBITS OF S. L. STEIN AND E. E. CURTIS.

results in preparing sculpture for photography, every effort being made to present the most graceful forms and lines and to avoid that which is commonplace or ungraceful. Form, expression, and characteristics should be considered. It is my own habit to as carefully diagnose the temperament of each sitter as their personal comeliness. To place the quiet, phlegmatic temperament in startling, dramatic action is as discordant as to pose the nervous, active, sanguine subject in a library, reading a book. It is, therefore, the province of the photographer to present the strongest characteristics of his subject, avoiding caricature and seeking the most favorable aspect. However plain a person may be, every face has its more or less favorable aspect, and from some view and in some light is comely.

"All things in the way of accessories or backgrounds should be subordinated to the subject of the picture. If, then, we are making a portrait, nothing in the way of dress, background, or furniture should be of sufficient prominence to divide the interest with the sitter. It is sometimes difficult to manage these subordinate portions of the picture artistically, as the camera copies everything before it with equal distinctness if on the same plane—so it is manifestly the aim of the photographer or 'artist,' if he be one, to so place and light, or subdue the lights on the accessories as to make all subordinate to the principal effect in the picture. Dress has much to do with this. If one is robed in a garment full of strong, geometrical figures, the result may be a good picture of the dress with female accessory. Or, in other words, the minor part of the picture becomes more prominent than the subject.

"As a rule, the light should fall at an angle of about 45 degrees upon the subject, and from as near a northern sky as is possible. Posing and lighting so supplement each other that I treat them together. Pose means in a degree balance. So, as we place our sitter under the light, the first effort would seemingly be to so pose or balance the head as to remove all fear of the head tumbling off, or, as another puts it, rolling out of the picture.

"The size of the head in the picture is at times an important element.

"In the high foreheads, long, thin faces, large heads, and often small bodies of a certain type of American women, the large head is peculiarly disastrous; and yet it is almost invariably asked for by this class of sitters. Probably the hope is that they may appear larger. The result is usually a masculine effect. Only the round, full face can bear the least exaggeration in size, hence young children can often be photographed with very large heads, and to their advantage.

"It is said that 'fools rush in where angels fear to tread.' So, oftentimes parties have volunteered to accompany friends to the photographer with the design or intention of posing them, evidently thinking that nothing could be easier or simpler than to pose a head, and there was very little to learn or be taught on the subject; but if, as Mr. Robinson says, we are to judge by the majority of specimens we see, the art of setting a head properly on its shoulders is not given to all men.

"Axioms in art are often more euphonious than truthful. So, having no rules or reliable axioms in portraiture, we may summarize by a few suggestions, which might be formulated as follows:

"1. Study both the faults and graces of your subject, and endeavor to conceal the one and emphasize the other.

"2. Endeavor by the arrangement of light to secure effect. Audacity in the contrast of light with shade is not the unpardonable sin.

"3. Study variety of both pose and effect. Mannerism is as objectionable in photography as in any branch of art, while

originality in treatment is quite as practicable and interesting as in painting. A recent writer says: 'Our subjects and our treatment of them must be emphatically our own; but, nevertheless, every student of art owes it to himself to get what help he can from the study of the works of the great painters who have gone before. His object should be to notice not only how natural appearances have been modified—or, as it is technically called, treated—by painters of acknowledged fame, but also why this was done. No artist who has in him any spark of originality will directly repeat any effect that has already been painted, but an earnest student can only benefit himself by trying in a measure to look at nature from the point of view of the masters of his art.'"

The lecturer then explained a simple and efficient method of producing bas-relief portraits, which we hope to present in our next issue.

Mr. Rockwood gave high praise to the exhibits shown at the convention, declaring that they compared favorably with the displays at the national conventions. He was accorded an enthusiastic vote of thanks by the President, and the first day's work was closed.

Second Day.—Wednesday, January 27th.

The morning session was called to order at 10.45 o'clock. After the unfinished business had been disposed of the report of the Nominating Committee was read. The following officers were subsequently declared elected to serve during the ensuing year: *President*, G. Taylor Griffin, Wilkesbarre; *First Vice-President*, E. E. Seavy, New Castle; *Second Vice-President*, Elwood Newell, Philadelphia; *Treasurer*, W. J. Goldman, Reading; *Secretary*, J. B. Clark, Indiana.

The Committee on Revision of By-laws then reported, advocating a few minor

L. V. Kupper, Phot.

EXHIBIT OF B. L. H. DABBS, PITTSBURG.

changes, and some discussion ensued as to the official button or badge of the Association. This matter was finally relegated to the decision of a special committee. The convention then adjourned to the steps of the State Capitol, where a convention-group was made by Mr. Frank E. Musser, of Harrisburg.

In the afternoon Dr. Rockwood, of New York, conducted a school of photography at Musser's studio, demonstrating the principles of lighting and posing to the large number of photographers who attended. The occasion was most profitable and instructive. During the day the Awards Committee took up the examination of the art exhibits, after which the displays were thrown open to the public.

At the evening session Mr. W. P. Buchanan, of Philadelphia, gave a complimentary exhibition of two hundred lantern views—"Gems of land and sea, with some character studies." This session was open to the public, and was crowded to the doors.

Third Day.—Thursday, January 28th.

The last day's sessions of the convention were attended by a larger number of photographers than were present at the earlier meetings. After the morning session had been called to order Mr. J. Will Kellmer moved that the best picture shown at the convention be bought by the Association and sent for display at the convention of the P. A. of A., at Chautauqua, in July. This resolution was carried. A communication from the photographers of Delaware and New Jersey was read, advocating the formation of a Tri-State Association. This matter was laid over for the consideration of the Executive Board. A brief discussion then ensued covering topics pertinent to the business end of photography, in which many members took part.

The souvenir medal of the convention was then offered for sale, and the proceeds, amounting in all to $64, were added to the general funds of the Association. Mr. Alfred Holden, of Philadelphia, afterward read a paper on "Employers and their Employés."

The afternoon session opened with the report of the Awards Committee, which announced the list of prize-winners as follows:

Grand Prize. 1. Bronze figure, B. L. H. Dabbs, Pittsburg. 2. Diploma, Chas. L. Griffin, Scranton. 3. Diploma, J. W. Roshon, Harrisburg.

Class A. 1. Gold medal, R. W. Philipps, Philadelphia. 2. Silver medal, A. N. Lindenmuth, Allentown. 3. Bronze medal, J. Will Killmer, Hazleton.

Class B. 1. Silver medal, Chas. Fritsch, Pittston. 2. Bronze medal, H. B. Betts, Mt. Carmel.

Class C. 1. Silver medal, B. Frank Puffer, Wellsboro. 2. Diploma and background, A. L. Rogers, Chambersburg. 3. Diploma, M. C. Wagner, Butler.

Class D. 1. Silver medal, B. Frank Puffer, Wellsboro. 2. Diploma and background, L. C. Smart, Renova. 3. Diploma, L. V. Kupper, Edinboro. 4. Diploma, T. B. Clark, Indiana.

Class E. 1. Bronze medal and ten gross platino-paper, B. Frank Puffer, Wellsboro. 2. Diploma and fifteen gross platino-paper, J. W. Killmer, Hazleton. 3. Diploma and five gross platino-paper, J. H. Kemp, Scranton. 4. Diploma, Otto E. Weber, Lancaster.

Class F. 1. Silver medal, L. V. Kupper, Edinboro. 2. Diploma and Wilson's *Cyclopædic Photography*, Otto E. Weber, Lancaster. 3. Diploma and one year's subscription to St. Louis and Canadian *Photographer*, W. A. Morehouse, Bedford.

Class G. 1. Bronze medal, Schreiber & Son, Philadelphia. 2. Diploma and one Bausch & Lomb shutter, James L. Dillon, Philadelphia.

A special prize of a $52 lens was won by L. V. Kupper, of Edinboro. Sprague & Hathaway Co. gave a 25 x 30 sepia, or water-color enlargement, framed, to the first prize-winners in all portrait classes—Dabbs, Philipps, Fritsch, Puffer.

After the prize-list had been read the business of the convention was put aside, and many of the prize-winners made brief addresses referring to their pictures and methods of work. The special praise of the Association was given to a picture of a "Madonna," exhibited by J. B. Schreiver, of Emporium; to the "Old Man Reading," by — Flickinger, of Bethlehem; and to the "Old Man," by A. N. Lindenmuth, of Allentown. We hope shortly to present engravings of these exhibits in the MAGAZINE. The special prize given to the exhibitor securing the highest number of points in any class was secured by Mr. L. V. Kupper, of Edinboro, and no prize awarded was better deserved.

The convention was then formally declared adjourned until 1898. In the evening a banquet was given to the members of the Association by Mr. Roger L. Kirk. It proved a most enjoyable occasion, and fittingly terminated the flow of good-will which pervaded the meetings of the first convention of the P. A. of Pennsylvania.

THE ART DISPLAYS.

According to general opinion, the fine collection of photographs shown in all classes exceeded expectations. The quality of the work, especially in lighting and posing and in the composition pictures, seemed to surprise everyone, and the photographers of the Keystone State have reason to be proud of their success. The complimentary exhibits of S. L. Stein (Milwaukee), Pirie MacDonald (Albany), and E. E. Curtis (Niagara Falls) were much admired, and attracted crowds of earnest students, who found in them inspiration and suggestions which will surely prove fruitful in the making of all future efforts. All the members of the Executive Board of the Association showed complimentary exhibits.

EXHIBIT OF THE LOVELL DRY-PLATE CO.—MADE ON "CLIMAX" PLATES.

To speak of all the noteworthy pictures would overtax our space. The exhibit of the Lovell Dry Plate Co., consisting of a

collection of large pictures made by leading photographers using "Climax" plates, was the centre of much animated discussion.

The majority of the pictures shown in all classes proved the all-prevailing popularity of aristo-platino paper. There were less than half a dozen pictures printed on albumen paper, and about the same number of carbon prints. The single transfer prints (carbon) shown by Mr. Puffer, of Wellsboro, excelled in depth and roundness. The "Climax" display was almost wholly printed in carbon. Very few glossy surface prints were in evidence. A selection of the leading displays is seen in the accompanying engravings.

AMONG THE DEALERS.

Mr. W. P. Buchanan, of Philadelphia, had perhaps the largest and most complete display in the trade department, most of the manufacturers and dealers having desks only, where they could meet their friends. Messrs. Morrison & Sons, of Pittsburg, and J. Lett, of Harrisburg, were represented in person. The Wuestner Eagle Dry Plate Co. had a good display of photographs, made on Eagle plates. The Lovell Dry Plate Co. was represented by its fine exhibit and Mr. C. O. Lovell, a "combine" which proved irresistible. The Nepera Chemical Co.'s growing interests were in charge of Mr. J. S. McGhan, who reported an abundance of business as the result of his trip.

The popular Cramer plates were well taken care of by Messrs. Wells and Nash, and many of the prize-winning exhibits were pointed out as "made on Cramer plates." Mr. Weaver, of the Seed Dry Plate Co., showed himself to be one of the most popular of the plate demonstrators, and won a host of new students for the *Seed Manual.* The Hammer plate was represented by Mr. W. Nye, and the growth of the popularity of this well-known brand of plates in the East was well attested by Mr. Nye's activity. He was one of the busiest men in his section.

Messrs. Wilson-Hood-Cheyney Co., Thos. H. McCollin & Co., Philadelphia; The Scranton Photo Supply Co., The New York Dry Plate Co., and other dealers were also represented.

To the officers of the Association, to Dr. George G. Rockwood and the other leaders whose assistance was so valuable, to the photographers and local press of Harrisburg, the greatest praise is due for the success of the convention. To Mr. L. V. Kupper, of Edinboro, Pa., we desire to extend our personal thanks for his assistance as our special correspondent, and to congratulate him upon his success as an exhibitor.

OUR PICTURES.

We have a keen sense of pleasure in observing, in the work sent us by friends of the Magazine, an earnest endeavor to get away from mere photographic reproduction to the higher art of picture-making. Looked at from this standpoint, our principal illustrations are more than usually interesting.

"The Neighbors of the Wayside Birches," which serves as the frontispiece, is the work of an amateur, Mr. Walter B. Swift, Wellesley Hills, Mass. It well illustrates his paper given on another page of this Magazine. The simplicity of the theme and its skilful treatment become quietly but forcibly apparent as we look into the picture. In its softly defined masses and the well-managed subordination which gives to each part of the composition its proper place, we lose the photograph and realize only the scene and its beauty.

The subtle qualities of the negative have all been appropriately rendered by the

carbon Velox paper used for our edition, and the Nepera Chemical Co., Nepera Park, N. Y., deserves a word of praise for the excellences of Velox as a printing paper.

In Mr. J. Wesley Allison's "Old Mill" we have a subject akin to the "Birches" in its quietness, but a new interest—life—infuses the charm of association to the scene. One can see that considerable thought was given to its composition and the securing of the negative, and Mr. Allison has our congratulations upon his success with a subject which, of itself, possessed little of pictorial quality.

The six poses of Mary Howe, delineating the dramatic changes in the "Mad Scene" from the opera *Lucia*, came to us from Mr. John C. Howe, of Brattleboro, Vermont, a brother of this fair singer whose fame is a matter of national pride. They were made, one after another, within half an hour, on Cramer plates. In conception, composition, and treatment each pose does credit to the photographer and his sympathetic subject.

THE INFLUENCES OF MASS AND LINE IN PICTORIAL PHOTOGRAPHY.

BY SEYMOUR H. BEALE.

THE difference between a picture and a mere topographical photograph lies in the fact that the one is simple and ornamental in treatment, whilst the other is not. The one is suggestive and does not tell the whole tale, but leaves, as it were, the end of the plot to be worked out in the imagination of the beholder. On the other hand, the photograph tells all; there is no play upon the imagination. Does not imagination play sad havoc with our feelings? Is not suspense more difficult to bear than reality? Then let your photograph be suggestive; give it a characteristic title, and one-half of the battle is won.

Pach Bros., New York.
THE WRESTLERS.

Pach Bros., New York.
THE WRESTLERS.

"WHEN ALL THE LEAVES ARE GREEN."

If a picture is to be ornamental in treatment it must fulfil the laws of ornament. This can often be accomplished to a certain degree by the moving of the camera but a few inches to take in what at first sight seemed to be an unsightly object, but which, when isolated from its surroundings and carefully blended with the rest of the picture, may turn out to be of infinite value.

The mind is influenced by the scene in three degrees: (1) mass of *light and shade*, (2) by *form or line*, and (3) by *color*. In choosing a picture, these three degrees should be borne in mind in the order stated.

When you arrive at the place which it is your intention to photograph, you should carefully study it, select the choicest portion, and then with that, by careful thought and study, make the most.

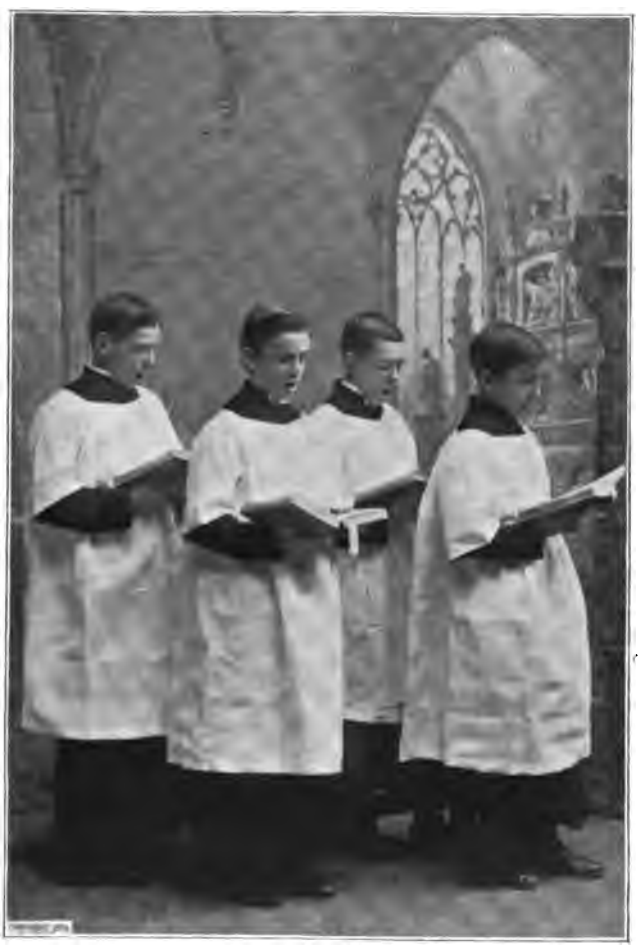
If there is not sufficient contrast of light and shade balancing the picture in the subject selected, the plate need not be spoiled. All good pictures are simple, bad ones complicated. Let your lights and shades be massed in such a manner that the picture is broken up into an *odd* number of distinct masses, as, for instance, sky, sea, and beach, or sky, mid-distance, and foreground, or some similar arrangement. Three divisions always suit artistic effect; five may do, but not so well, for there is a trinity running all through nature. Never use an even number of masses. Then keep as far as you can each part of those masses subservient to the whole. In fact, make it a part of the whole to which it belongs; then you will have your picture, not spotty, but simply and broadly treated. Each of these masses should be connected in some way; then, and only then, will the picture be a harmonious whole. Of course, the general masses must be again subdivided, but this can only be done by the selection of the subject. All the masses must bear some relation to one another in tone. This can best be studied by observing the tone of the original with the eyes partly closed, and looking through the eyelashes. A long wait may be necessary to obtain this, but it pays in the end, for a day spent in obtaining only two pictures will give more after-satisfaction than one with a gross of plates spoiled. On a bright day it is often a difficult matter to make a picture, at such times parts of the

scene are violently actinic, whilst others may be very slow in the magic power which they transmit. Hence the advantage of a day when nature is all moist and the poor actinic power of the green is enhanced by reflected light, while the other parts remain more under control.

A picture should have one central idea, which it is the intention of the operator to emphasize. The rest of the picture should be subservient to this and lead up to it. Thus the law of "radiation" would be fulfilled and the eye would roam over the picture in an endless maze without coming to an untimely halt. The eye should never be led out of the picture. This may be managed by keeping those edges which run off the plate soft; that the eye may play from one point to another it may often be necessary to introduce a few details as connecting links, such, for instance, as a dead branch, a straw, an open gate, or some similar innovation. Whatever you do, do not allow items in your picture to count up, as, for instance, "one, two, three" this way, "one, two, three, four" that way. If such be allowed, the eye pauses and jumps from one place to another, instead of an unwearying wander.

The influence of "line" in pictorial representation is well known to artists, and a brief notice thereof may be all that is necessary here. Nature has a beautiful way of expressing herself and of appealing to the varying moods of the human mind. It is to the influence of line that we will confine our attention at the present moment. Nature is full of lines, from the sky to the ever-varying landscape. A continuance of one form of scenery and nature's moods may have much to do with the formation of a nation's character. Energy, repose, or dejection can be suggested by the use of ascending, horizontal, or drooping lines.

Vertical and ascending lines depict power and energy. Was it not among the mountains that our Bible was written? "I will lift up mine eyes unto the hills whence cometh my strength," sang the poet thou-



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THE CHORISTERS.

sands of years ago, and the same is true to the present day. Look at the energy depicted by the sprightly larch, the erect tail and ears of the enraged animal, the raised arm of the orator or passionate man. Look, again, at the power depicted by the spiked helmet, the erect carriage of the prosperous business man, or even the ascending lines of our spires and chimney-stacks in our towns.

Horizontal lines depict peace and repose. Think of the peaceful look of the mysterious horizon, the calm lake, those flat moors, or the plain studded with villages. The cedar of Lebanon is suggestive of peaceful thought. Does not the clerical hat or square college cap impress peace upon the mind? Look at the peaceful attitude of the priest as he blesses his audience with outstretched arms, or even the gossip as she stands at her door with her arms folded across her bosom. See, again, the peace of the domestic cat as it lies upon the hearth with outstretched legs and tail.

Drooping lines depict dejection, sorrow, or weakness, which might be illustrated by the man bowed down with sorrow, the drooping head and tail of the cur in disgrace, the drooping lines of the clothes of those cast down by adversity, the weeping willow, the slouching hat of the villain, or even the droop of smoke from the village chimney.

We will not be more fulsome by giving further examples. No doubt many will suggest themselves to the reader.

It must be borne in mind that a true work of art emanates from an intuitive faculty, and cannot be worked out from tables or rules; still, rules are useful as an aid to the selection when one is in doubt. It is in the treatment of the clouds where the greatest difficulty arises in photography, and yet if we have patience and wait, this part of our picture may turn out the most successful, and then the eye may be led by ceaseless peregrinations over the picture, and never tire.—*The Amateur Photographer.*

OBITUARY.

MR. DAVID KNIGHT CADY.

It is with sincere regret that we record the death of Mr. David Knight Cady, which took place November 27, 1896, at Clifton, Cincinnati, in the sixty-second year of his age.

D. K. CADY (1883).

For more than a quarter of a century Mr. Cady was one of the most prominent business men connected with photography in the West. In 1865, a year after the death of Mr. Peter Smith, of Cincinnati, he entered into partnership with Mr. R. H. Galbreath, and for many years they carried on together the old-established photographic supply business of P. Smith & Co. The business of this house at that time was great, there being few enterprises of the kind in the West previous to the war. Their trade extended over Ohio, Indiana, Kentucky, West Virginia, and outlying sections of the West and South. In addition to their regular trade they did a large and profitable business with the Army of the Cumberland and other Federal troops located in the Middle West during the great struggle. After the war this trade was diverted to the several

new supply houses established during that period, and local competition threatened the existence of the firm. A chance occurred by which the most active competitor was "bought out," and again prosperity attended Messrs. P. Smith & Co., who had amalgamated the two enterprises at a cost of almost $20,000. In all these things Mr. Cady was the prime mover, and the popularity of the firm increased as he became better known among the fraternity. The firm was generally spoken of as "The Old Reliable," a familiar title which evidences its standing better than many words.

D. K. CADY (1867).

In 1867 Mr. Galbreath sold his interest to Mr. Cady, who continued in business under the old firm name of P. Smith & Co. until the end. The place of business on Fifth Street, Cincinnati, was for years the rallying-point of Western photographic interests. Everything pertaining to professional photography was carried in stock, and in the early days of wet-plate work the amount of supplies carried was necessarily enormous. For some time a fine art department, including paintings, engravings, frames, etc., was united to the regular business; but this was afterward abandoned.

The introduction of dry-plates and the growth of amateur photography made great and radical changes in the business of the firm, and for some years past the prosperity of our old friend steadily waned. Under this and other business misfortunes his spirit was always the same—kindly, courteous in speech and gentle in manner, ever ready to offer information or to help those who sought his aid. One of his last ventures was the establishment of a College of Photography, which, however, did not meet with the encouragement it deserved. In earlier years he frequently contributed of his knowledge to the photographic journals, and the "Observer's Corner" notes, which have recently appeared in our pages, were from his pen.

He is survived by his wife, a son (Mr. John H. Cady), and a daughter (Mrs. Richard J. Lewis), at whose home he entered into his rest.

MR. ROBERT NEWELL.

Mr. Robert Newell, an old friend and co-worker, and a skilled photographer well known and esteemed by the profession, died at his home in Philadelphia, February 2d.

He began in business as a portrait photographer in 1855, and rapidly made an enviable reputation among the portraitists of that day. In 1865, perceiving the growth of the demand for outdoor and commercial photography, he abandoned portraiture and took up these branches exclusively. His photographic car, one of the best and most completely equipped of its kind, served as a model for the majority of the vehicles afterward built for photographic purposes. He was foremost in adopting the various improvements introduced in the profession, and was one of the best-informed all around workers we have known.

Mr. Newell left four sons—all save one engaged in photography. Of his enter-

prise, some account, accompanied by a recent portrait, was given in the March (1895) number of this MAGAZINE. His genial presence and good-humored earnestness will be sorely missed by all who knew him.

MR. THOMAS N. SPENCER, one of the oldest photographers of Ohio, died at Circleville, Ohio, January 25th, aged eighty-two years. He was actively engaged in his business until September, 1896, when Mr. G. Edwin Thornton succeeded him.

ON PHOTOGRAPHING ICE AND SNOW SCENES.

BY JOHN BARTLETT.

"When icicles hang by the wall."—*Shakespeare.*

To the poet and painter the winter season may be a time of the year rich in suggestion and thought; to the one, summoning up remembrances of things past; to the other, suggesting subjects for broad and effective handling, of masses of light and shade, and harmonies of subtle coloring; but to the photographer in search of the picturesque, bare boughs are unsightly of themselves and unprofitable for pictorial rendering. But when clad with their wintry foliage of soft fleecy snow they are transfigured and the whole landscape made so beautiful that many a camera is lured from its hibernation to translate upon the sensitive film these fairy scenes of the inverted year.

In England, I am told, the soft mask of new-fallen snow melts much more quickly than in our latitude; but I have found that unless one starts out soon after the fall the sun or the wind will get ahead and despoil the woods and the fields of the special endowment of Boreas. The most beautiful variety of snow is that light flaky kind which robes the limbs of trees in fleecy garments, but it is also the quickest to yield to the embraces of the sun, and of less frequent occurrence than the blizzard-like sort of solid frozen pellets which rebound from the surface and do not decorate the trees with those lace-like festoons of white, which are the emblems of purity itself.

Photographing ice and snow is not the easiest occupation of even those who have had considerable experience in photography. There are certain conditions necessary, or the results will be anything but satisfactory. Much depends on the light, much on the exposure, and much on the development. Study the subject before the lens is pointed at it, and study it on the ground-glass, too. When your head is under the cloth you will perceive a number of ghost-like reflections, everyone of which must be exorcised or they will materialize on your negative.

The first great precaution is to be sure that no extraneous light enters the camera from reflections, from brass-work, the diaphragm, or the lens itself. Any bright surface, however small, acts like a tiny mirror and some little inquisitive ray will steal into the penetralia. All rays are verily thieves and robbers that do not enter through the door of the lens. Do not forget that you are working in the very midst of a light-reflecting material which becomes all the more intense when the sun is shining upon it.

You must protect your camera from the bright light by covering it over with the opaque head-cloth while focussing, while drawing the slide of the plate-holder, and while returning it after the exposure. The plate-holders, with the sensitive plates, as well as the exposed plates, should be kept in a case or wrapped up. Considerable light is sometimes reflected from the interior woodwork and over the bellow

of the camera which in ordinary exposures would not act injuriously, but with snow scenes might give back rays sufficiently powerful to veil a plate.

I remember once, in trying to photograph a large mass of beautiful snow and ice sculpture, I employed on a small camera, 4 x 5, a rapid Ross symmetrical lens, intended to cover a much larger field, because I wished to get a large image on a small plate, and sought to avoid distortion by coming up close. I was surprised to find that the plate, on development, lacked the brilliancy I expected to secure under the supposed favorable conditions. A careful examination of the lens, the interior of the camera, and even the plate-holders, and an investigation of the direction of light illuminating the subject, failed to show the slightest indication of reflection or leakage. Exposure on less shining subjects verified my convictions that nothing in the apparatus was at fault for the tame results I obtained.

I concluded, therefore (whether my conclusion is right, judge ye), that the covering power of my lens being in such excess of the demands of the plate, a circle of light extending beyond the limits of 4 x 5 inches, illuminated the woodwork, and sent back sufficient light to account for my bad negative. At any rate, on adapting a smaller lens to the camera I achieved brilliant results under the same conditions. Except for portraiture I am inclined to think that brilliancy is often lost by employing too large a lens for the plate.

W. T. Wilkinson. Wakefield, Eng.

HOAR FROST AND FOG.

Not infrequently the hand-camera photographer after he has purchased his kodak discards the lens which the makers supply, and has an expensive lens refitted of great illuminating power, and sallies forth down to the coast with great expectations of eclipsing the work of his *confrères*, only to return crestfallen, with fogged plates, while they secured beauties. The maker is blamed, the apparatus is overhauled,

but the guilty agent is not detected, or rather he is ignorant of the allopathic dose to which he has been treating his delicate film. For seascapes or snow and ice scenes the kodaker had better let the cheap lens do the work and not try to gild refined gold.

When you have set up your camera be sure the tripod points have a firm grip on the slippery surface. Often, like the youth in *Excelsior*, there is danger of resting upon a fictitious crust. File the points before you start out, and there will be little danger of disturbing the equilibrium of the camera when the cloth is thrown over it and everything is ready for exposure.

A snow or ice scene can only be effective when the contrasts are properly balanced; but there is great danger of too much contrast, harshness arising from the high-lights being so brilliant and the shadows so deep cast, especially when the sun illumines the masses.

All landscapes are more interesting and picturesque, photographically speaking at least, when taken with the sun shining upon them. Snow and ice scenes are not exceptions, but the rule is not absolute, and many a lovely snow picture has been taken without sunshine. When the sun is partially veiled by light clouds the finest effects are secured, just as large masses of marble architecture are always best photographed in a half-sunlight. Have you ever noticed on dark winter days, when it is dark enough outside to light the lights in the house, how beautiful and soft the snowy landscape appears out of the windows. The sky at the time is modulated in a delightful manner with shifting lights and shadows? Such scenes make most lovely snow pictures.

We must select the proper angle of illumination, so that the prominent portions cast shadows upon the level parts of the snow and ice, and make fine reliefs and sculpturings.

Moderate-sized masses of ice and snow often form by themselves beautiful subjects to photograph. When no object of comparison is near by to judge of their actual dimensions the effect is enchantingly deceptive, the innumerable grottoes and stalactites of icicles presenting the appearance of vast caverns with endless windings in which one could fancy gnomes and elves wandering about. Then, too, rocks covered with ice and hung with icicles are most beautiful in the contrasts of rough and smooth, the dark and glittering; but they are difficult to manage in the development.

Overtiming is probably the besetting fault of the snow-photographer. It is so hard to realize the quality of light reflected from the snowy surfaces; but I think it is better to err in the direction of over-exposure than to give too short a time. We can, in a measure remedy too strong action of the light, but there is little hope for saving a plate, by any of the therapeutics of photography, when insufficient exposure is given upon a snow scene.

Endeavor to get as near as possible to correct exposure, for success alone depends upon it.

Modification of the developer must not be too much relied upon to make up for the so-called "latitude of exposure."

Experience can alone reach the goal of correct exposure. I have never seen a good snow or ice scene taken by the "push-the-button formula."

Know also your lens and the plate you are working with.

Sometimes a view is presented to the eye which promises to give a beautiful picture—high-lights relieved against more modulated shadows—but look out for halation.

In such cases the best results, in fact the only possible results, are to be had with plates backed up with some opaque substance which absorbs the light. There are

John G. Howe — MARY HOWE — Brattleboro', Vt.

various methods for backing up a plate, but since the excellent double-coated and anti-halation plates are procurable the back coating is unnecessary.

In venturing advice for development, the adviser must be cautious, for it demands the exercise of much judgment. I generally try to keep down the amount of pyro or other reducer to the minimum and am exceedingly chary of bromide of potassium. The alkali had better be slightly in excess, so as to keep down violent contrasts, and use plenty of water if the action is progressing too rapidly. A strong vigorous development is seldom necessary, I might say never, a slow action of the chemicals securing safer results.

By slow development the shadows have an opportunity to appropriate more of the particles, and are consequently much richer thereby in detail. In strong development there would be a violent rush and deposit on the high-lights, and the shadows would have to content themselves with plain glass by the time it was necessary to cry halt to the high-lights.

Flatness or tameness is, however, to be constantly watched for. Examine the plate by holding it up and looking through it, and observe whether the high-lights are getting the necessary vigor. If the shadows have built up, add cautiously a little more pyro or hydrochinon, as it may be, to stimulate the tardiness of the high-lights, for it must needs be they appear white and brilliant in our print and not smudgy and gray. If the plate is overtimed—that is, comes up rather quickly in the developer—stop the development at once after the image has detail. Do not fear for its thinness, but wash off and fix. Without seeking to get density by modification of development trust to after-intensification with Abney's formula—mercury and cyanide of silver—and the result will be far better. In this way one can often secure beautiful results, the almost ghost-like negative toning up with rich gradations and considerable contrasts.

Ferrous oxalate, when the iron is properly regulated, gives excellent results; but, as this is not generally employed at the present time, we offer the following:

A.

Glycin	75 grains.
Metol	10 "
Sulphite Soda	3½ ounces.
Carbonate of Potash	4 "
Water	50 "

Also a second solution:

B.

Glycin	40 grains.
Metol	8 "
Sulphite Soda	600 "

The plate is immersed in Solution A, which acts slowly upon it, sometimes requiring as much as twenty minutes to complete the negative, but there is no danger of fog. If you find that this method of development is not lagging too much, allow the action to go on. Should it need stimulation add a portion of B to secure density. Of course, if the photographer desires to use pyro or hydrochinon or eikonogen he may do so, observing the precautions already given.

The glycin developer as constituted above will be found admirable for developing exposures upon marble architecture, as it modifies the high lights and gives more the appearance of the peculiar features of such work, which presents subjects somewhat akin to snow and ice structures.

There is little danger of over-development with glycin, and I have never encountered fog even in a prolonged development of forty minutes.

Finally, the snow or ice picture ought to be properly mounted on a mount calculated to set forth its virtues. And the printing, I think, should never be in the warm brown tones we sometimes see. Cold tones are more suitable, but they

ought to be rich. Bromide-contact prints, if properly done, are beautiful. So are platinum prints; but undoubtedly the best is carbon, especially when transparencies or slides are desired, some of the colors furnished by the manufacturers of tissue, the greenish (not the intense tint), almost giving the tone of nature's pigment.

THE MICHIGAN CONVENTION.

THE second annual convention of the Photographers' Association of Michigan—prefaced by an illuminated announcement covering thirty-two pages, with a four-color poster cover, and carried through with the breezy soulfulness characteristic of Western enterprise—has come and gone. It was held at Detroit, in the fine Museum of Art, which is the glory of that lovely city, February 2d and 3d. Looking back over it all—the beautiful art display, the fraternal spirit of good-will and mutual helpfulness, its influence upon the fraternity and the public toward the advancement of our profession—one cannot but wonder at the splendid energy and co-operative effort which could create so huge a success, where a couple of years ago was only stagnation. For which success proud Michigan photographers should not forget the praise due to the officers of their State association, Messrs. Hayes, Heath, Tray, McMichael, and J. E. Watson.

The art exhibition connected with the convention was thrown open to the public on Tuesday morning, February 2d, and all day long the place was thronged with visitors. The collection was arranged on the second floor of the building, and ample room with all proper facilities for display were afforded exhibitors.

The first session of the convention proper was opened at 2 P.M., by President Clarence M. Hayes, who, after the usual preliminaries, gave his annual address. He reviewed the work of the association since its inception, and spoke of its usefulness and the practical character of its help. A good word was said for the amateur workers as of material assistance in the development of new methods, etc., and the members of the association were directed to turn their attention to the special features among the art exhibits. After the reading of communications from President Hemperley, of the Pennsylvania Association, and others, the reports of the Secretary and Treasurer were taken up. The latter showed a deficit of $64.54. By an amendment to the by-laws, doing away with the remuneration of officers, this deficit is to be wiped away during the ensuing year. The remainder of the session was occupied by talks by Mr. M. A. Seed, of St. Louis, whose subject was "Coated Plates," and Mr. F. Dundas Todd, of Chicago, whose subject was "Lighting." Both were practical and extremely interesting. In his remarks Mr. Todd referred in an appreciative way to the persistent effort made by this MAGAZINE and its editor to give the photographer reliable information on the art side of his work. During the evening the members attended an exhibition of the cinematograph at the invitation of Manager Moore of the "Wonderland."

The morning session of the second day opened with the ballotting for the location of the 1898 convention. The Detroit members made an earnest effort to secure the choice of their city, but after some discussion Jackson was chosen.

The committee in charge of the matter of Sunday closing of all Michigan galleries then made their report, which was wholly in favor of closing. It was stated that out of 300 photographers heard from, over 278 were in favor of the movement. A new committee was appointed to take charge

of the bill prepared for introduction to the State Legislature, by which means it is hoped that the resolution will speedily become law.

Ex-President Bellsmith, of the P. A. of A., congratulated the association on the step it had taken, and said that the other associations in the country will follow suit. President Sperry, of the Ohio State Association, complimented the association on the success of its meeting and exhibition, expressing the opinion that the methods of the Michigan organization were equal, if not superior, to those of any other State association, in both originality and practicability. Charles Hetherington, of Chicago, gave a comprehensive talk on photography in general, giving many valuable suggestions concerning the practical end of the business. He said that the Michigan association had taken a long step forward in affording to amateurs an opportunity to show their work, and that the photographer might learn much from this source. Amateurs, he said, have the means and time to go into branches of the art that must be overlooked by the professionals to a certain extent because of lack of time.

At the afternoon session, Director Griffith, of the Museum of Art, gave a practical talk on "The Art of Photography." He selected several specimen photographs from the exhibits and criticised them from an artistic point of view, making suggestions as he criticised. Resolutions were adopted thanking the directors of the Museum of Art for their courtesy to the association, Director Griffith for his personal efforts in its behalf, and the press for favors shown.

The election of officers resulted in the choice of the following: President, J. E. Watson, Detroit; First Vice-President, A. G. McMichael, Detroit; Second Vice-President, H. F. Brown, Northville; Secretary, E. S. Tray, Jackson; Treasurer, S. Sharpstein, Grand Rapids. Steps were taken toward establishing a fund to provide a home for Jex Bardwell, the oldest photographer in the State, who is now aged and feeble and in poor circumstances.

The work of the judges was completed and the list of prize-winners announced at the close of the session. The only non-competing display was that of C. M. Hayes & Co., of Detroit. Their collection included a number of fine likenesses of well-known society ladies printed in different colors (carbon).

The prizes were awarded as follows:

Grand prize for the greatest photographic novelty. James A. Arthur, Detroit.

Allen Bros.' prize for the best group of seven-inch pictures, five or more figures. W. L. Smith, Saginaw.

Class A. Six pictures, thirteen inches or over, portraits exclusively. Arthur & Philbric, Detroit, first; H. Randall, Ann Arbor, second; Hughes & Sarjeant, Detroit, third.

Class B. Twelve pictures, Paris panels to thirteen inches. W. L. Smith, Saginaw, first; E. D. Roberts, Detroit, second; A. C. Novess, Mt. Clemens, third.

Class C. Twelve Paris panels, portraits exclusively. O. H. McCoy, Pontiac, first.

Class D. Twelve cabinet photos. C. R. Osburn, Coldwater, first.

Class E. Six Paris panels and six cabinets. George H. Fowler, Charlotte, first; J. M. Brigham, Pontiac, second; F. M. Van Campbell, Constantine, third.

Class F. Cabinets. A. V. Reem, Eaton Rapids, first; J. L. Moore, Olivet, second; J. M. Brigham, Pontiac, third.

Class G. Landscapes and marines. Levi Eaton, Detroit, first; Allen Fanjoy, Sault Ste. Marie, second; P. R. Osterich, Detroit, third.

Class H. Interiors, six pictures, seven inches and over. T. Palethorp, Greenville, first; A. C. Novess, Mt. Clemens, second; Geo. H. Fowler, Charlotte, third.

Class I. Commercial work, six pictures, seven inches and over. M. P. Thalie, Grand Rapids, first; C. R. Baker, Detroit, second.

Angell prize for the best three-and-a-half-inch head. Hughes & Sarjeant, Detroit.

Special prizes were won by Guerin, of St. Louis, Mo., and Benjamin, of Cincinnati.

Amateur Classes—Section A.

Class A. Three marine views, five inches and over. Loomis, first; Van Fleet, second.

Class B. Three landscapes, five inches and under, with or without figure. Grenell, first; Sellick, second; "1498" third.

Class C. Three landscapes, five inches and over, with or without figures. Sellick, first; Grenell, second; Van Fleet, third.

Class D. Three marine views, five inches and under. Grenell first; Van Fleet, second.

Class E. Six interiors, any size. Van Fleet, first; Field, second.

Class F. Three landscapes, any size, with or without figures. Miner, first; Grenell, second; Pellam, third.

Class G. Three marine views, any size. Grenell, first.

Class H. Six interiors, any size. C. L. Major, first; Van Fleet, second.

Class I. Leon Coquard, first; Miss Boyd, second; H. E. Webb, third.

The quality of the work exhibited was noticeably higher than that shown at the last convention, and the public appreciation of the display was so hearty that it was decided to allow the exhibition to remain on view a day longer to permit the general public sufficient opportunity to see it. Perhaps the only exception to be taken concerned the rather numerous examples of photography of the nude figure. While a few of these were clever in conception and treatment, the majority closely approached indelicacy—a point which should be avoided.

The amateur section contained some fine work, and this feature was generally regarded as sufficiently successful to justify its being extended at the next convention. The awards of the judges gave all-around satisfaction, as might have been expected, from the fact that Messrs. Bellsmith and F. Dundas Todd headed the Committee on Awards.

The collection of photographs made by Mr. C. L. Weed, embracing examples of various photographic processes from the daguerreotype to the platinotype and carbon pictures of to-day, proved one of the most interesting features of the collection. Great credit is due to Mr. Weed for his work in getting this collection together. Many of the photographs were from the specimens of Mr. Jex Bardwell. Taking all the displays together, the total number of pictures shown cannot have fallen far short of a thousand. The classes were all well filled, and the work of the judges must have been arduous. The professional work was especially good, portraiture being the strongest feature. Messrs. Arthur & Philbric won the Founders' Silver Cup for the second time and secured the principal honors. The markings of the exhibits of this class averaged from a third of a point to three points, so close was the competition. The pictures of McMichael (Detroit), Heath (Grand Rapids), and Donald Roberts (Detroit) were worthy of special mention.

The manufacturers and dealers were well represented and did much to promote the success of the convention. Messrs. Allen Bros. had a large display of novelties and the famous Suter lenses, which attracted universal admiration. Mr. G. R. Angell (Detroit), Thum Bros. & Schmidt, and Perkins & Richmond (Grand Rapids) also presented their specialties in an attractive way.

The M. A. Seed Dry Plate Co. was represented by Mr. M. A. Seed in person,

assisted by Mr. Cassidy. The Cramer Dry Plate Works had a capital representative in Mr. Sheets, who has charge of the Cramer interests in Michigan. Mr. C. O. Lovell managed the business of the Lovell Dry Plate Co., and his collection of work made on the new Climax plates was an art exhibition in itself. The American Aristo Co., the Nepera Chemical Co., and the Hammer Dry Plate Co., with Messrs. James H. Smith & Co., had special attendants looking after their several interests, and all were kept busy.

The average daily attendance of photographers at the convention was about 125. The majority of the exhibits were made on aristo-platino paper, although an increasing number of carbon prints was shown, and the popularity of this printing process seems to be growing steadily.

The wind-up of the convention took place on the evening of February 3d, when the dealers gave a stag party to their friends attending the meetings, and spent a very enjoyable time. Speeches were made and felicitations exchanged after a happy fashion until a late hour.

This report is necessarily incomplete, as it has been made up without the help of the stenographic report, which has not yet been received. Further details will appear in our next number.

THE STUDIO LIGHT.[1]

BY JEX BARDWELL.

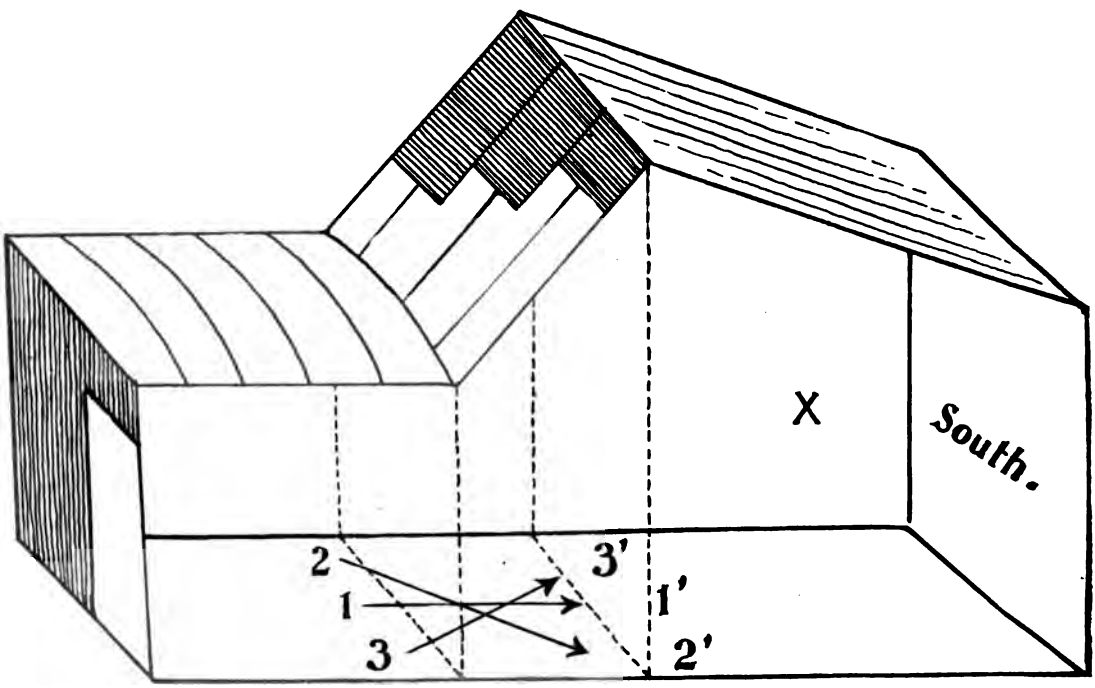
It has been said that if an employé applies for work in a city he is asked, "What is your specialty?" but in the country, "Are you an all-around man?" Just so with skylights. Some are special, some all-around. Some men run to certain kinds of work, and in order to carry out their ideas lean to a certain kind of light, which their experience teaches them is best for their special line of work.

When I commenced my professional life as a photographer I had to work by a side window in the dining-room of a country tavern, with a sheet overhead and another at the side, the chambermaid finding the sheet and helping to put it up. In those days only bust pictures were taken, the head-rest being either fastened to the chair or the floor, with no other movement except up or down, to suit the height of the sitter, who occupied the same seat and position as those who preceded him. This was a special light. Gradually things changed, and in after locations we had a chance to do better work. In time photographic cars were constructed, one of which it was my fortune to occupy, and I there made up my mind to some day have a big room just like it. During the journeyings of those early days I took in every photographic gallery, and came across every kind of light. One would hire a room and put in his light—the best that circumstances would allow; but on inquiry I found that every man would tell me that his was the best light ever built. In 1860 I found the opportunity to hire the upper part of a building and the means to build a gallery. The first and second floors ran back about 130 feet, the third story and front comprised about 30 square feet. I built on an addition of 100 feet, and put in a tunnel light. Of this light I send a sketch; it explains itself better than a written description.

The galleries ran north and south, the back end being the south. It was 24 feet wide, with 6 feet partitioned off the full length on the west side. It is of the skylight, however, that I wish to speak. This

[1] Supplementary to the article on page 40 of the January MAGAZINE. [ED. W. P. M.]

ran clean across the full width of my 24 feet space, and rose to a height of 16 feet. The construction made it very heavy, and I had afterward to have it braced. The roof ran from the top of the light back to the end wall, being quite low in front. This I call an "all-around skylight," for I could take any kind of photograph, right or left, bust or full-length, single or group. A better light for grouping was never built. I used to take many stereoscopic groups, and in them the illumination was even from side to side and from front to back, no matter how deep. Up to whole size (4 x 4) I used a Ross triplet, and for stereoscopic work a pair of 5-inch and a pair of 7-inch focus Dallmeyer landscape lens. This was in wet-plate times, so you may judge of the strength of the light. I believe one can get a better and a greater variety of light effects with a tunnel-light than with any other form I have seen or had description of. If desired, a small window can be set in on either side about where I have marked X on the sketch, to introduce a back light on some subjects, and for other special effects. This idea is worth thinking over.



THE STUDIO LIGHT.

ACETYLENE.

As the apparatus required for the production and use of acetylene is being rapidly perfected, the value and convenience of this new illuminant become more apparent. From what we learn of the new acetylene generator, just introduced by Messrs. J. B. Colt & Co., of this city, it is now possible to secure a supply of the light equal to 500-candle-power, lasting four or five hours, without the slightest risk of explosion or disaster. Although this advance does not bring acetylene within the province of practical usefulness as far as commercial portraiture is concerned, yet it is

worthy of note as placing a new power in the hands of the lanternist or others who require a brilliant, steady illuminant for a limited time where the gas produced is exhausted by continued use.

The gas, as stated in the paper at page 11 of our January issue, is produced by simply submerging calcic carbide in water. The carbide itself is not combustible or explosive, but when a piece of it is placed in water it generates a gas which, when burned, produces a light of intense brilliancy, about thirty times more brilliant than ordinary house-gas. If a piece of carbide is placed in a vessel about half filled with water acetylene gas will at once be generated and will be seen to rise in bubbles in the water and pass off into the air. Now if the vessel be closed with a cover into which is set a suitable burner, and the air allowed to escape until pure gas is contained in the vessel, the gas may be ignited at the burner, but the difficulty in practice with such a crude arrangement is that as long as the carbide remains in the water the generation of the gas will continue until the carbide is exhausted, and if it generates faster than it is consumed it will produce a pressure of the gas that is undesirable and might under some conditions prove dangerous. In the few instances where explosions of acetylene gas have occurred the gas was compressed in the steel cylinders at an extremely high pressure, and the accidents were due to gross carelessness in the handling of the cylinders when so charged.

In the generator furnished by Messrs. Colt & Co. the gas is not under pressure, and there is not a sufficient amount of it stored in the generator for an explosion to occur. The generator is so arranged that the carbide is automatically raised out of or lowered into the water as the supply of gas is increased or diminished.

The charging of the generator is simplicity itself. It consists in putting a sufficient amount of carbide into a wire-basket, which is supported from the top of the gasometer. The gasometer is placed in an inverted position into an outer tank into which a small quantity of water has been placed. Owing to the air in the gasometer it will remain floating on the water, the basket of carbide suspended several inches above it. By opening a valve the air is allowed to escape and the gasometer sinks until the carbide is submerged, when the gas immediately begins to generate and the slight pressure produced gradually raises the gasometer, lifting the carbide out of the water, where it is suspended until the gas is used.

One pound of calcic carbide will run four burners for one hour or more. At the present price of carbide the cost of running the four burners is approximately fifteen cents per hour. The No. 3 generator is the size recommended for lantern exhibitions. It weighs 18 pounds, is 20 inches high, and 12 inches in diameter.

The maximum charge of carbide for a No. 3 generator is three pounds when the generator is to be used continuously. If it is necessary to shut off or use it intermittently, a smaller quantity of carbide should be used.

A No. 3 generator is quoted by Messrs. Colt & Co. at $30, calcic carbide costing 15 cents per pound. It will thus be seen that experimental work with the new light, whether for portraiture or other work, need not prove unduly expensive. A larger generator, for which the maximum charge of carbide is ten pounds, is obtainable at a slightly higher figure.

While it is still conceded that the use of acetylene, when stored under pressure in cylinders, is attended with considerable risk, the safety of the most recent form of automatic generator is now so generally recognized! that the insurance companies are removing their restrictions as to its use.

Messrs. Colt & Co. state that the use of

acetylene as a superior substitute for oxy-hydrogen gas for lantern work increases daily, and the prediction that it is to be the light of the future would seem, in this direction at least, to be likely of fulfilment. A special handbook on acetylene and its generation for lantern purposes is being prepared by Messrs. Colt & Co., who will send copies to those applying for it.

AN ARCHITECTURAL APPLICATION OF PHOTOGRAPHY.

BY C. W. CANFIELD.

It is, I think, a frequent observation of those who deal in wares which are bulky or weighty, or which are to be made up to order, that the effect on a customer's mind of a photograph—even a poor one—is much more convincing than a black and white drawing, or even a rendering in oil or water-color. An underlying impression undoubtedly exists that while the artist with his pencil and brush may be romancing or drawing on his imagination, the photograph must, *nolens volens*, reproduce literally the actuality which its portrays. The same line of reasoning will equally account for the preference accorded to copies of pictures, for instance, by photographic processes over the interpretations of engravers, however skilful.

At all events, my own experience has shown photographs to be much more easily accepted than drawings, and an account of a method intended to take advantage of this fact may not be out of place.

It is manifestly impossible to know exactly what the effect of a building or a monument will be on a given site until after the completion of the same in place, however desirable such knowledge may be; but I have gotten a satisfactory approximation by the process about to be described.

Having determined the size which the base of a proposed monument, for instance, shall measure, I lay them out on the plot in question, marking each corner with a stake which will show prominently in the photographic view of the lot as a whole, which I then proceed to make. It is next necessary to construct in wood or plaster a model in miniature of the proposed design to a scale; an inch to the foot is convenient. This model having been painted or colored so as to approximate to the tone of the material to be used, a negative is then made of it, with especial regard to two things: First, that the lighting shall be as like as possible to that of the view of the lot, so that the shadows may harmonize; second, that the size of the image on the ground-glass shall be so regulated as to coincide with the corresponding dimensions indicated by the stakes on the view negative. A light background is preferable.

The negatives having been obtained, the next problem is to get a combination print. Of course this may be accomplished by masking the print from the view negative, so as to leave a space in which to print the image from the model negative, complementarily masked. But this is troublesome and does not give good results, owing to the white line which is usually left around the openings of the masks. In practice it has been found much better to make an albumen print from each negative, tone them alike, and after drying to cut out carefully with knife or shears the image of the model, and paste it directly on the face of the other prints, after mounting, in its appropriate place. The edges of the cut-out piece may be shaved down so as to make them adhere closely and conceal the thickness of the paper, or this can be modified by the use

of a spotting brush and ink. I have produced several results in this way, in which, when framed under glass, the proposed work can hardly be distinguished from that already existing and included in the general view.

As a matter of fact, making due allowance for the small size of the model, the representation of the final appearance of the ensemble is perfect. Naturally the effect of different sizes can be studied and mistakes thus avoided.

THE SYSTEM OF UNFINISHED PROOFS.

A WRITER in *Scraps* discusses the system of sending unfinished proofs to patrons, and claims that, on the whole, the advantages counterbalance its defects. He is of the opinion that the system originated in England more than twenty-five years ago, and has been informed that it is almost universally practised in this country. He says, in part:

"The system in question is simply that of giving to the sitter within twenty-four hours an untoned, unmounted, and unfixed proof from the untouched negative.

"The advantages of the system are, first of all, promptitude. The ordinary time taken in submitting proofs may be taken as five or six days, or in too many cases in the season, ten days or a fortnight, unless our experience is unfortunate and exceptional. Where the unfinished proof system prevails the sitter is told that a proof will be ready to-morrow, and this at once produces a feeling of pleasant surprise and good-will to the photographer. Then the next advantage is the saving of labor in retouching, toning, and mounting, which is too often thrown away, for resittings are only too frequent. Even if a resitting is not asked for, this is due, not to the fact that the sitter is altogether satisfied, but rather to his desire to possess the prints without further tiresome delay, even though he has the feeling that the result is not altogether satisfactory. It may be thought that an untoned print is not likely to conduce to satisfaction, but the public are for the most part fairly discriminating and are ready to allow for the lack of finish and to estimate what the finished result will be. Further, it must be admitted that the natural expression is often seen in a print from an untouched negative, where it is too often destroyed in a finished print. The sitter sees the defects which are present in the unfinished results, and takes pleasure in indicating how and where he thinks they need touching up.

"If the print is a fairly satisfactory result, the sitter quickly comes to a decision as to his approval or otherwise of the result, and his decision is usually a wise one. If a resitting is clearly wanted, it is given at once, and the next day the same class of proof is ready. If, on the other hand, the proof is liked, then in due course the finished prints (after the retouching has been done to the sitter's suggestions, guided, of course, by the photographer) are sent in, and; as proved by experience, such prints are approved of in practically all cases. Time, trouble, and expense are saved to both sides, and the result is mutual satisfaction."

We cannot admit the universal adoption of this system in American studios, especially since the advent of glacé printing papers. As far as our knowledge goes, the more reasonable system of sending, with other unfinished prints, one properly finished and mounted, or at least a retouched proof, is the general practice. The finished print is, of course, taken from the negative selected as most likely to please the sitter.

This modified system of proof sending does not result in any vexatious delay, as proofs are invariably promised "the day after to-morrow." As a matter of practical experience, the sitter is more generally satisfied by seeing at least one finished proof of his sitting, and less likely to demand a resitting. This is especially the case in businesses where the bulk of the work is printed on glacé paper, which emphasizes (in the unfinished print) the exaggerated blemishes of the negative.

For high-class work where platinotype or matt-surface papers are used there is, as a matter of course, less risk in submitting unfinished proofs to the patron. In these cases the soft surface of the paper, especially platinotype, modifies and renders less repulsive the harshness of the unfinished negative.

CLOUD PHOTOGRAPHY.[1]

In the photography of clouds the principal cause of trouble lies in the fact that the blue color of the sky, from its nature and from the great reflection of light, acts so powerfully on the film of the sensitive plate that it is overexposed to a degree that the delicate fleecy forms which are projected upon it are obliterated. Especially is this the case with those feathery varieties of clouds known as cirrus. In order, therefore, to secure these, one is obliged to depress the energetic action of the sky, which is effected by interposing a yellow glass screen between the sky and plate, and using in conjunction an orthochromatic film, which is more responsive to the yellow and green rays reflected from the clouds, but little of these colors coming from the sky itself.

One has three points to take in consideration to insure success, viz.: The filter or screen; the plate; and the development of the image.

The Color Screen.

Films of gelatine or collodion stained with yellow pigment are to be rejected, inasmuch as they change color under the influence of light and lose their transparency. Either glass stained to the appropriate tint or a cell filled with yellow liquid come next in order. Perhaps the yellow glass is most convenient in practice; but not all kinds of glass can be employed, it being difficult to obtain from the glass manufacturers the kind which remains permanent and possesses the requisite color.

We need not mention that the glass plate should be homogeneous and have both its surfaces parallel. It is necessary that the coloring should be incorporated in the glass, and not produced by enamelling or coating the exterior with a colored film.

Inasmuch as it is next to impossible to secure such glass, recourse is had to the glass cell made by cementing two pieces of square plate-glass so as to be parallel to each other, separated by a partition so as to form a space serving as a receptacle for the colored fluid. The plates are first to be scrupulously cleaned with carbonate of soda, then with water, and finally rubbed with a rag of flannel dipped in alcohol. Special care must be taken to avoid air-bubbles in the selection of the glass. After the introduction of the colored fluid to the cell the opening at the top is sealed securely by cementing a piece of glass over it. The cell with the fluid can then be handled without risk of spilling the contents or of admitting any air-bubbles.

These cells may be filled with solutions of varying degrees of color intensity, the selection of which depends on the character of the clouds to be photographed.

[1] Translated from *Der Amateur Photograph.*

Solutions of organic matter, such as the anilines, aurantia, primuline, etc., cannot be used for the liquid for filling the cell as they are changed by the action of daylight. A solution of bichromate of potassium in water is unchangeable when free from organic matter; a saturated solution may be made at ordinary temperature, filtered, and a few drops of hydrochloric acid should be added to it. This is employed in taking the very light feathery varieties of clouds. With a saturated solution diluted with one-half its volume of water the cirrus clouds may be taken. A saturated solution diluted with two-thirds of its volume of water is sufficient for taking the cumulus and nimbus cloud-forms.

The Plate.

The use of ordinary plates is out of the question for most varieties of clouds. A very slow plate with quick exposure and a small stop is sufficient for the cumulus or nimbus. In the development the addition of a considerable proportion of bromide of potassium is advised.

When it comes to taking the cirrus cloud it is essential to employ an orthochromatic plate. This may be prepared by staining an ordinary plate with erythrosin, 15 grains, dissolved in 1½ ounces of alcohol, to which 50 ounces of water are added. The plate is washed in this for a minute, rocked so as to secure uniformity in the absorption of the coloring matter, drained, and dried, placed on end, in total darkness. The orthochromatic plates of commerce may also be used with success. There is no truth in the assertion that they deteriorate by keeping a short time. The writer has used some nearly two years old, and found neither speck nor spot from decomposition. Often the focus can be secured by fixing upon some remote object. Frequently it is necessary to tilt the camera almost vertically to secure some forms of clouds overhead. The size of a cloud as it appears to the eye is very deceptive, and when seen on the ground-glass it looks quite different and much smaller. For such a lens of long focus is employed.

The Development of Cloud-negatives.

An old developing bath is to be preferred in this work, as it gives greater contrast between sky and clouds, and the development can be carried further without risk of fogging the plate. The addition of bromide also acts as a preventive of fog and gives greater density and contrast.

When the delicate cirrus and the more compact woolly-like cumulus are secured in the same skyscape, the use of an old developer is not to be advised, as the cumulus would come up first and get over-developed before the cirrus made its appearance. In such cases employ a fresh developer much diluted with water, and containing an excess of carbonate of soda over the pyro. If the image comes up lacking density, apply a solution with more pyrogallic acid, and continue the development for density, adding bromide as indicated, if necessary. It is better to secure proper density in development, so as not to necessitate subsequent intensification, thereby clogging up the shadows in the negative and rendering the high-lights too harsh.

To give, in conclusion, some idea of the time of exposure, I would recommend with the filter containing the saturated chromate solution, and a lens of 160 mm. focus, with $\frac{1}{80}$ stop, for cirrus, six seconds as maximum. With an ordinary lens and stop $\frac{1}{16}$, one-thirtieth of a second is often sufficient with good illumination of sky.

Finally, the photography of clouds, to be successful, demands thoughtful attention to the circumstances attendant, the time of day, the direction of the wind, and the position of the sun. We recommend amateurs to take up this important branch. J. L.

PHOTOGRAPHERS' ASSOCIATION OF AMERICA.

We have received the following letter from President C. M. Hayes, and gladly give it the publicity desired, hoping that our readers will respond to a man:

FEBRUARY 15, 1897.

MY DEAR SIR: I would be very much obliged to you if you will insert the following in your valuable MAGAZINE for next month:

I have, at my general request, received from a number of members of the Photographers' Association of America suggestions as to what we should have in the instructive sessions at our next annual meeting; also many other valuable points as to the features and conduct of same. There are, however, a number of members from whom, as yet, we have received nothing, and we would like to have their ideas in time to act upon and elaborate them. Let me know what you think would be interesting to you and the other members to talk about and act upon when you are there. Send to my address, 246 Woodward Avenue, Detroit, Michigan.

C. M. HAYES,
PRESIDENT, P. A. OF A.

The Executive Committee of the P. A. of A. at their meeting in Jamestown, N. Y., decided to hold the next convention July 12th to 17th inclusive. The prize list will be presented in a future issue.—ED. W. P. M.

THE Indiana Association of Progressive Photographers will meet in convention for their third annual gathering at Indianapolis, March 2d, 3d, 4th, and 5th inclusive. A large and enthusiastic convention is looked for, and the number of exhibits entered exceeds those of previous years. Details of the meeting will be given in our next number.

THE Photographers' Association of Virginia announce their first convention, which is to be held at Richmond, Va., March 23d and 25th. Special railroad and hotel rates have been secured, and all attending are assured of a pleasant and profitable time. A number of papers are to be read and discussed. Mr. C. Hetherington will conduct a school of photography. The meetings and exhibition will be held in Saenger Hall, on Seventh Street, Richmond, where ample room and good lighting accommodations have been secured. Thirteen gold and silver medals, with special prizes in addition, are offered. Full information can be had on application to the Secretary, Mr. H. V. Lineback, 212 South Jefferson Street, Roanoke, Va.

THE PHOTOGRAPHERS' ASSOCIATION OF OHIO.

Office of the Secretary, P. A. of O.
BUCYRUS, O., February 20, 1897.

The Executive Committee of the P. A. of O. met at Columbus, O., February 16th, all of the officers being present. The following important changes were decided upon, viz.: To make the 1897 convention a two-day meeting, Tuesday, August 31st, and Wednesday, September 1st. To hold the convention at this time, State Fair week, in order to secure a railroad rate to all of one fare for round trip. To give manufacturers and dealers floor space in the convention hall free of charge. To abolish the expensive banquet which has burdened the Association treasury every year. To provide a studio and furnish it with raised seats, where practical demonstrations will be given. To eliminate all restrictions as to size of picture in the competitive classes. To select a jury of five photographers and artists as judges of the competitive classes, the jury to examine

exhibits by consultation, without markings. To give those fortunate enough to have pictures selected for the salon a certificate of "honorable mention" signed by salon judges. To have an art lecture during the convention. To reduce the number of prizes offered, thereby rewarding only exhibits of real merit.

The following prize list was adopted:

Special. Professional photographers outside of the State of Ohio, one picture; no restriction as to size. 1st. Gold medal. 2d. Silver medal.

Special. Amateur photographers—open to the world—one picture; no restriction as to size. 1st. Gold medal. 2d. Silver medal. 3d. Bronze medal.

Grand Prize. 24 pictures; no restriction as to size. A diamond badge.

Class A. 12 pictures; no restriction as to size. 1st. Gold medal. 2d. Silver medal. 3d. Bronze medal.

Class B. 12 pictures; no restriction as to size. 1st. Silver medal. 2d. Bronze medal. Competitors in Class B must be from cities of 15,000 or less.

Class C. 12 pictures; no restriction as to size. 1st. Silver medal. 2d. Bronze medal. Competitors in Class C must be from towns of 5000 or less.

Class D. Views, interior or exterior, 6 pictures; no restriction as to size. One silver medal.

Class E. Commercial work, 6 pictures; no restriction as to size. One silver medal.

Class F. Portraits, from negatives made by artificial light, 6 pictures; no restriction as to size. 1st. Silver medal. 2d. Bronze medal.

RULES.

All pictures must be from negatives made since the last convention. Competitors can only compete in one portrait class. Competitors in all except the special classes must be members in good standing of the P. A. of O. and residents of Ohio. Members from towns of 15,000 or smaller population may compete in any class, subject to the rules governing the same. All pictures, whether in competition or not, are eligible to the salon. Professional photographers outside the State desiring to compete for special prize are requested to accompany their entry with a fee of $2, thus becoming honorary members of the Association. Amateurs exhibiting are required to pay a fee of $1, which must accompany their entry.

All pictures must be framed ready for display. Entries to close August 28, 1897. Exhibits for the art department should be sent to I. Benjamin, First Vice-President, P. A. of O., City Hall, Columbus, O.; all charges prepaid. Positively no exhibits will be received later than noon, August 30th. Entries are to be made to the Secretary, L. A. Dozer, Bucyrus, O.

We extend a cordial invitation to photographers, both professional and amateur, manufacturers and dealers, one and all, to meet with us and assist in making this the greatest State convention on record

L. A. DOZER,
Secretary.

PANORAMIC PHOTOGRAPHY. A CORRECTION.

MR. EDWARD L. WILSON.

DEAR SIR: I was interested in seeing in the February number of this MAGAZINE an article by Mr. Franklin A. Nims, wherein he gives credit to Mr. W. H. Jackson, of Denver, as being the pioneer in panoramic photography.

Permit me to correct what is doubtless an unintentional error on his part. The matter is of no great moment, but these things pass into history, and it is well to have them as they should be.

In 1876 my brother made what was known as the "Great Fair Photograph"

(The Centennial Exhibition, 1876); it was printed from seven negatives on one sheet of paper, and was the largest thing of the sort yet produced, being something over *ten feet long*. The joining or rather fusion of these various photographs was so perfectly accomplished that only the keenest scrutiny by an expert could detect the points of junction, and in fact it was rather a matter of astute guessing. Copies of this composite portrait of the Exposition were sent the various crowned heads of Europe, who were pleased to signify their appreciation after kingly methods. Thus the Emperor of Japan sent me a pair of superb bronze vases inlaid with gold and silver, Victor Emanuel a Victor Emanuel gold medal, while the Emperor of Austria sent an order, material vanities, which as a good American I keep locked safely away, wearing the spirit only on my heart, a reminiscence of things that were.

I mention these things that our young men may feel encouraged in knowing that there is recompense for every effort. There are many medals yet to be struck and decorations to be presented, and, above all, there is the moral consciousness of having achieved. The prize is for the grasping.

Thanking you for your space, I am,

Yours very truly,

F. GUTEKUNST.

WITH THE TRADE.

The Nepera Chemical Co., Nepera Park, N. Y., has opened new branch supply offices at 8 Rue Martel, Paris, France, and 21 Quincy Street, Chicago, Ill., to accommodate its increasing business.

Messrs. James H. Smith & Co., Chicago, report a large demand for their Magic Camera Stands. These studio helps, as shown in Messrs. Smith & Co.'s advertisement this month, are among the best of their kind; and have several advantages peculiar to themselves. They are balanced by springs instead of heavy iron weights, and are thus easily movable in the studio without being cumbersome or difficult to manipulate.

The M. A. Seed Dry Plate Co., through their Chicago representative, Mr. O. W. Hodges, sends us four choice examples of figure photography, one of which we hope to present shortly to our readers. They are all beautiful in technique and show that with the Seed plate every desirable effect of lighting can be secured.

The California Automatic Print Washer, introduced by Mr. H. A. Hyatt, of St. Louis, continues to do good service in our printing department. It is simple in operation and a capital time and labor saver. We would not part with it for many times its cost.

The March Chemical List, issued monthly by Messrs. Charles Cooper & Co., 194 Worth Street, New York, is ready for all who desire it—free on request.

The excellent engravings of the "Old Mill" and "Six Poses of Mary Howe," used as inset pictures in this issue, were made by the Photo-Chromotype Engraving Co., 719 Vine Street, Philadelphia. This firm has attained a first-class reputation by the high quality of its reproduction work in half-tone, line, and three colors. Photographers needing engravings of any character, and desirous of securing the best possible results obtainable from their original pictures, should send to the Photo-Chromotype Co. for estimates.

The picture, "When all the Leaves are Green," which illustrates an article on another page of the MAGAZINE, is engraved

from a specimen print on the new matt paper made by the National Photo-paper and Chemical Co., Springfield, Mass. We are unable to give the name of the maker of the negative, but its fine appearance, crispness, and delicacy reflect great credit on the photographer and the National Co.'s new paper.

The Semi-Centennial Stand, made by Messrs. Horgan, Robey & Co., Boston, continues to grow in favor. Almost 800 of these stands now adorn our American studios. There is nothing better available at home or abroad. It is especially useful for children's pictures, as it permits of the camera being lowered to within a few inches of the floor.

In answer to several correspondents we would state that Mr. W. M. Hollinger, whose portrait work has been so much admired, uses the Hammer plate exclusively, and is a stanch believer in its virtues.

We would like to say a good word for the platinotype papers made and sold by Messrs. Willis & Clements, Philadelphia. It is strange, when one considers the simplicity of the platinotype process and the beautiful results it gives, that platinum prints are not more common than they are. For high-class portraiture, large and small, the rough C. C. paper is unsurpassed. It suppresses obtrusive detail and makes every good quality of the negative stand out in bold relief, with desirable breadth and effectiveness. A sample half-dozen sheets 5 x 7 and developer may be had for 75 cents from Messrs. Willis & Clements.

The Hollinger portrait studies issued by Messrs. Willis & Clements (obtainable on receipt of $1.50 for the set of eight prints, from the office of this MAGAZINE) have enjoyed a large sale. We have pleasure in this, as they cannot but help to spur on all who carefully study them.

Empire Collodion Matt Paper, introduced by the Scovill & Adams Co., and obtainable from all dealers, is a paper we can thoroughly recommend for carbon or platinotype effects. When intelligently used the results obtained with this paper are extremely beautiful; it gives rich darks and pure whites with fine gradation throughout where the negative will permit.

The firm of James A. Bostwick & Co., manufacturers of photographic specialties, will hereafter be known as Bostwick, Harrison & Co., and will continue in business at the old address, 215 Ralph Avenue, Brooklyn, N. Y. The new partner is Mr. Frederick J. Harrison, until recently associated with Messrs. E. & H. T. Anthony & Co. as editor of the *Photographic Bulletin*. Our good wishes accompany Mr. Harrison in his new field.

Mr. W. I. Scandlin, late manager of the Heliotype Co., Boston, has taken charge of Anthony's *Photographic Bulletin*, as co-editor with Professor Chandler.

EDITOR'S TABLE.

MESSRS. VAN LOO & TROST, of Toledo, O., have reprinted their beautiful booklet telling about combination pictures. It is issued as an advertising souvenir and has proved a most profitable persuader. We understand that photographers desiring to see this booklet may obtain a copy on request. Put a two-cent stamp in with your request. Messrs. VAN LOO & TROST are generous indeed to offer this business suggestion to the fraternity.

THE Richmond, Indiana, Camera Club sends us its 1897 programme and list of officers, from which it appears that this society is thriving and full of activity.

WE have received a charming folio, displaying forty studies of a child, by Mr. FRED. BOISSONNAS, of Geneva. Mr. BOISSONNAS has long been famous for his pictures of children, and this, his latest work, is calculated to add to his reputation. The folio is titled *Dans les Roseaux* (Among the Reeds). On each page are presented three, four or five pictures of a child in various poses. The pages are illuminated with floral designs printed in two colors. Suitable verses accompany the pictures from the pen of MONS. G. NEUCHATEL. The book has been gotten up by the Society of Graphic Arts of Geneva, to whom, with Mr. BOISSONNAS, our congratulations are offered.

JEX BARDWELL'S HOME.—We will be glad to hear from those of our readers who intend to subscribe to the fund being raised to provide a home for the veteran Jex Bardwell and his wife. It is intended, if possible, to complete this fund before the next national convention. Let us all unite in the good work. If every reader will give even a little the home will soon be an accomplished fact. Every quarter of a dollar helps.

WE are promised, for early publication, the first of a series of papers dealing with art principles in photography. These will be written by an artist thoroughly conversant with the subject, and are being planned to help the ambitious ones to climb.

The Cincinnati Commercial Tribune of February 14th presented, as a special feature, a group picture of ninety-six men conspicuous in the history of Cincinnati. Concerning the picture the *Tribune* said:

"One of the best known social orders in New York to-day is the Ohio Society. It is made up of Ohio people who have located in the great Eastern metropolis, but who have not forgotten that they are Ohio men by birth, and are still proud of the fact. They have annual meetings and dinners, and the society is one of the most notable in existence in this country.

"There recently came an interesting order to a certain Cincinnati photographer from this society for a group of prominent Ohioans to be placed in the rooms of the society in New York. The veteran photographer, JAMES LANDY, was the man chosen to make this group of pictures, for he is eminently fitted to do the work—more so than any man in his profession in the State, or, indeed, in this section of country. He has been longer in the business than any man in the State of Ohio, and has taken photographs of nearly every prominent man one can think of. His collection of negatives is something enormous, and Mr. LANDY himself does not know how many he has, although they are alphabetically arranged and easily gotten at. Two days after the order was received he had chosen from his stock negatives of ninety-six well-known Cincinnatians and Ohioans whom he had photographed at one time or another. All but three of these are dead. Prints were made from these negatives, they were mounted on cabinet cards, and the group framed ready for shipment, and to be hung in the rooms of the society."

As a matter of course the picture given in the *Tribune* is a line engraving, but even in that form it is remarkable as a collection of portraits. We advise our readers who may desire suggestions as to the many variations of line obtainable in making best portraits to secure a copy of the *Tribune*.

PICTURES RECEIVED.—A choice selection of figure studies, cabinet size, has been sent us by Mr. E. C. LITCHFIELD, Arlington, Mass. The poses and lighting seem to have had careful thought and the technique of the collection is faultless. The pictures are almost invariably printed on Aristo-platino paper and toned to a rich black. Mr. LITCHFIELD deserves much praise for their good qualities.

From the studio of Mr. SPENCER JUDD, Sewanee, Tenn., we have received three large photographs exhibiting the power of the Goerz Anastigmat One shows a group of footballers and is crisply sharp in all its planes. Each individual portrait is as good as if photographed under the skylight. Another picture shows a country residence approached by a shady avenue of full-grown trees. The stereoscopic effect secured in this, a feature we have noticed in other outdoor views made with the Goerz Anastigmat, is remarkable. The third photograph shows a collection of trophies of an African expedition and well sustains the claims made for the Anastigmat for reproduction work. The photographic work throughout is brilliant.

Mr. W. R. FENLEY, Newburyport, Mass., favors our table with a dozen dainty examples of child portraiture, in which the graces of his little subjects are deftly caught for posterity.

A comical business persuader, worth asking for, is sent out by Mr. C. A. BLODGETT, Hicksville, O. It must be seen to be appreciated.

John O. Howe MARY HOWE *Brattleboro', Vt.*

WILSON'S PHOTOGRAPHIC MAGAZINE.

EDITED BY EDWARD L. WILSON.
JOHN A. TENNANT, Associate Editor.

VOL. XXXIV. APRIL, 1897. No. 484

ON THE GROUND-GLASS.

AFTER our last focussing the conductor of *The Ground-Glass* was enveloped with fog, brought on by cogitations on the supplementary illumination of the sensitive film. But thought gradually took form, and *The Ground-Glass* found itself inquiring: What then is this fog? What is this disturbing element in light which the photographer anathematizes? May it not, after all, be a potency for good if we only knew how to control it, like we do other in themselves destructive influences in nature, perhaps a valuable accessory in exposure and development.

The poet tells us:

"There is a spirit of good in things evil,"

and why should not photographers seek for this good spirit and eliminate it from evil things? Perhaps *The Ground-Glass* is in a somewhat complaining mood, brought on by the foggy condition, but it cannot help wondering why so little has been accomplished in what might be called the philosophy of photography. Despite the labors of the eminent men of science and the exhaustive manner in which most scientific problems are treated, comparatively little inquiry is made into the rationale of photographic phenonema. In this age of rigorous scientific research the neglect is hard to account for. Surely scientific photography ought to be a better cultivated field; surely it would repay the patient investigators after truth. With few exceptions the researches in photography have been rather desultory. It may be necessary to toil all night before the day dawns on our path. But you know "nothing is denied to well directed effort." *The Ground-Glass* believes it was Herschel who said this.

What do we know of the nature of the latent image? M. Carey Lea has indeed given us some insight, but he is laboring almost alone in the vineyard, while we are treated to dissertations on dancing molecules. And then, again, *The Ground-Glass* wants to know what has been done scientifically to clear up the conception of solorization. The researches of Herr R. Ed. Liesegang form a capital introduction to this field, but doubtless discoveries lie hid which might be brought to light by a careful and systematic course of observation and experiment. It may be that some clue to the mystery of the latent image is involved in the understanding of the phenomenon of solarization. Experience shows us continually how one phenomenon depends upon another, but

the inductive method seems to have less favor with the investigators than the deductive. A theory is set up and facts made to conform thereto, instead of the general principle being the evolution from the facts.

The Ground-Glass appreciates the great value of the imagination as a factor in discovery; but the temptation must be constantly avoided of wandering off by devious paths from the narrow way which leads to truth. The only safe way is to build up from observed facts, to deliberately assemble all the parallel instances we can muster, to experiment rather than passively observe.

Some days ago *The Ground-Glass* was asked to focus on an alleged discovery of photography in natural colors, which had the countenance, at least, of some of the ablest men in the profession. Reluctantly, and only because the leading lights had requested, the lens was turned that way.

Our readers know the result: "nothing novel, nothing strange," at least this time. Every now and then is announced the attainment of the consummation devoutly to be wished for. The strange thing is, how scientific men will lend an ear to such performances, and thus for a time turn the channel from flowing through more cultivated soil.

Even the greatest of the achievements in heliochromy, as it is called, are nothing but the extreme elaboration of a preconceived theory of Helmholz or Clerk Maxwell of the possession of three areas on the retina specially sensitive to vibrations which result in color-sensation. *The Ground-Glass* may be presumptuous in thinking so, and may receive a fracture from the critics, but it cannot help from advancing the idea that the world is still a good way off from the solution of the color problem.

The gospel of orthochromacy has not been preached to every creature—if the gospel itself is thoroughly orthodox. Let us have a perfect orthochromatic plate, and we will wait awhile for the color-sensitive film.

Perfect orthochromacy is the door we must enter before we can be admitted to the palace of heliochromy.

The Ground-Glass feels, therefore, thankful for the earnest labors of Dr. Vogel, Mr. Gray, Mr. Bierstadt, and Mr. Ives, with the others who are seeking for a plate which shall perfectly represent the color-values, for, though there may be an approximation, there is not yet a complete rendition.

Just now *The Ground-Glass* focussed on an old book on photography, Robert Hunt's *Researches on Light*, and was delighted to read the numerous efforts this indefatigable experimenter made toward discovering surfaces sensitive to light. *The Ground-Glass* could not help musing, how many a process lay here hid which afterward found its way as an important factor (rediscovered, of course,) in photographic processes, as intensifier or reducer, toning or other agent of manipulation. Of course, we see this all now by the light of modern methods; but is it not true that in photography, as in other studies, it is too often our habit to be led by the opinions of the latest authority only, and to neglect the original sources where in the glow of the all-important discovery of the time, many a good idea, casually struck off, is suffered to cool and lie forgotten for years?

We are sure there are many such undeveloped suggestions which the masters in our art have left for us to work up, and which may reward us by enabling us to work out a discovery.

He who merely desires to gather information for its practical value in dollars

and cents does well enough to pursue the shortest course; but the student who honestly wishes to advance the science will not hesitate to go back upon the path and glean the scattered truths and bind them in a sheaf, if he does nothing more.

But these thoughts have sufficed to clear up the whole surface of *The Ground-Glass* as it presents itself with all its uniform serenity, a veritable *tabula rasa*, a blank sheet for the reception of some new ideas, which it earnestly hopes that the few serious admonitions given in good spirit may stimulate to a vigorous growth.

EXHIBITION OF THE SALON OF THE ASSOCIATION OF OHIO PHOTOGRAPHERS AT THE ART MUSEUM, CINCINNATI.

BY OTTO WALTER BECK.

THE oasis of the central States for art-loving people is the Museum of Fine Arts at Cincinnati. The institution is managed with a spirit of thoroughness and alertness for opportunities for the advancement of artistic impulses and movements hardly surpassed in the country. It may be well said that its visitors of the past few years have been treated to exhibitions of the art of nations truly encircling the world. Famed for its vigor and healthfulness, the Scandinavian display of one hundred and fifty pictures is still fresh in our minds. It was followed by the Scotch, the quaint, the lyrical, the coloristic, the echo of the Fontainebleau school, and of the Japanese decorative influence. Famed modern masters' pictures, loaned from New York, were here, as well as examples of the work of those artists about whom art interest in Paris centres to-day.

Revolutionary, bewildering, was the exhibition of Japanese pictures, bringing a new vision, a new æsthetic sense, new sensibilities, and, let us hope, a permanent lesson of what art is for its own sake, detached from literature, history, and all alien features.

To-day the visitor, entering the lower hallway, pauses to surrender himself for a little while to the ever-recurring fascinations of the casts; the copies of the highest ideal of Greek art; its gods and goddesses; its athletes and its scholars deified. At his next step he encounters the familiar casts of the renaissance—that second vital outburst of art—our old master period.

And with these impressions overriding all the barrenness that the outer world insists upon; rekindling instead devotion to the ideal, and the desire to enjoy, to do, to excel, he passes through the permanent galleries of modern pictures to the room devoted to new exhibitions. Here there is a change; a new feature has come in the form of a surprise. The impression is a subdued and favorable one. The art is good; it is often fine; it has a high tendency and artistic flavor. It *is* an art, although it reminds one of the numerous photographers' windows of the streets, with their commercial coloring. It is photography. Photography with a high aim and of high attainments. The work is chiefly portraiture, and the portraits form the best examples of the art, owing to a better control of material and a more limited number of accessories in the composition. It is difficult in the landscape to illuminate material; it is easier in the portrait to control it. There is thought everywhere; thought of the pure art kind, coupled with feeling. There are tendencies of an intellectual nature, and there is individuality on every side. The impulse is to view each one in the order in which it is hung. The hanging of the pictures is artistic—not crowded like sheep in a fold, as is

sometimes the case in exhibitions, but arranged with ample space about them, making it possible to form and hold an impression, to concentrate attention and thought on the part of the observer. And it leaves a feeling of dignity and respect for the work.

How beautifully some of these heads are treated! One forgets the type in the treatment. That is healthful. Photography has finally made its début in the salons of the sister arts, and let us trust that other like selections—photographs of first merit—may find places on the walls of the museums of the country. Indeed, such collections ought to form a permanent feature of the museums, not only for present enjoyment, but as a record of the growth of the art.

This exhibition is a triumph of the artist-photographer over the mechanical art-worker in photography. It means that fame will come to that photographer whose work contains highest artistic merit, and this necessitates art study on the part of the men in this profession. The artist-photographer of the future will work much as the painter of portraits or the sculptor works. He will spend hours and days in carrying out his conception of a portrait. He will make his background to suit the sitter, instead of reversing the method. He will be paid for his work and his art, and this result will be brought about by exhibitions—the ever-recurring exhibitions, local, national, and international, where his work will be exposed to comparison, his thought and personality read. The intellectual and artistic qualities exhaled from his work will help in forming powerful intellectual and artistic movements in international art. There will be a period of exhaustive experiment in embodying the characteristics of old masters in modern photography; in developing, under the influence of the works of those great men, qualities of largeness and repose; in adapting to photography something of the spirit that breathes from the canvases of the painters of genius.

There will be schools, like the pre-Raphaelite, that love the quaintness and the naïveté of thought, the tinge of remoteness added to the sharply contrasting, deep colors, and the graceful lines. There will be "plein airists" working for atmospheric effects; and realists dealing in artistic and inartistic actualities. Japan's æsthetic qualities and China's vigor will be felt in decorative impulses of a wholesome and native character.

And all these things will be healthful evidences of growth in photographic art—first among artists—then reaching through to the people, until the day will come when the arts combined will be so thoroughly a part of the intellectual life of the day that the ministry will use its figures for illustration of the celestial, as is done in Japan in our day.

TRI-SODIUM PHOSPHATE AND PYRO COMPARED WITH SODIUM CARBONATE AND PYRO.

BY MILTON B. PUNNETT.

In the following are given the results of a few experiments made to determine the relative values of tri-sodium phosphate and sodium carbonate as developing alkalies in connection with pyro. For the sample of tri-sodium phosphate used I am indebted to the Mallinackrodt Chemical Works of St. Louis. It consists of small, six-sided prismatic crystals, some of which had slightly effloresced, intermingled with small amorphous lumps.

Tests for carbonate showed that it con-

tained little if any. When exposed to the air for a day or two it still gave negative results; but after a week's exposure, also when dried in an evaporating dish on a steam-heated radiator, it absorbed carbonic dioxide from the air and effloresced quite freely when tested with acetic acid. The following formula, I think, will illustrate the change, although I have made no experiments to verify the supposition, nor does any authority at my command mention the matter:

Tri-sodium phosphate. Water. Carbon dioxide.

$$2Na_3PO_4 + H_2O + CO_2 =$$

Common (di) sodium phosphate. Sodium carbonate.

$$2Na_2HPO_4 + Na_2CO_3.$$

I have seen it stated that it was this property of absorbing carbonic dioxide during the course of development that caused it to act as an accelerator. The sense of the original statement must have become changed, as the amount of carbon dioxide absorbed from the air during the course of development would be relatively very small, and, besides, the salt has in its pure condition a strong alkaline reaction.

In making the developing tests the following solutions were used:

A.

Crystallized Tri-sodium Phospbate	4 ounces.
Water	16 "

B.

Crystallized Sodium Carbonate .	4 ounces.
Water	16 "

C.

Crystallized Sodium Sulphite .	4 ounces.
Pyro	1 ounce.
Water	16 ounces.

"B" and "C" are Seed's standard pyro-soda solution. The exposures were made on Seed's 26-sens. plates to a sensitometer.

For the First Experiment I took of B 4 drachms and of C 4 drachms, with water to make 5 ounces of solution (regular pyro-soda developer). The high-lights appeared in 12 seconds, and development was finished in 120 seconds. The negative had average density, printing speed, and clearness.

For the Second Experiment I took of A 4 drachms and of C 4 drachms, and added water to make 5 ounces. The high-lights appeared in 24 seconds, and development was complete in 240 seconds. The negative was quite a little faster, denser, and hazier than that produced by the first experiment. As I had developed the plate in the first experiment to ten times the time of the first appearance of the high-lights, I also treated the plate used in the second experiment the same (Watkins's method).

Third Experiment. In this experiment double the amount of phosphate solution as used in experiment No. 2 was taken, and a corresponding less amount of water. The high-lights appeared in 12 seconds, and development was complete in 120 seconds. The resulting negative was very dense and quite a little fogged. From experiments two and three we see that, taking the time of appearance of the high-lights as a basis, the development proceeds much more rapidly with the phosphate than with the carbonate.

Fourth Experiment. With 6 drachms of the phosphate solution the high-lights appeared in 15 seconds, and development was finished in 120 seconds. This gave a denser and foggier plate than the regular soda developer used in the first experiment.

Fifth Experiment. I now returned to the same proportions used in experiment No. 2. The high-lights appeared as previously in 24 seconds, but development was stopped at 120 seconds. Compared with the result in the first experiment (soda) the negative was brighter, but lacked speed and density. Comparative experiments showed that of two developers made up as in experiments Nos. 1 and 2, the phosphate developer oxidized much more rapidly than the carbonate, and also gave

an almost immediate precipitate of lime and magnesia when well-water containing those ingredients was used, while the carbonate gave a precipitate only after standing some time.

The conclusion drawn from these experiments is that, as an accelerator in connection with pyro, tri-sodium phosphate has no advantage over sodium carbonate, but has the disadvantage of causing the pyro to change more rapidly; of being unstable when exposed to the air, thereby causing an uncertainty as to its exact constitution and power; of causing the developer to cloud the plate when hard water is used; and, finally, being much more costly than carbonate. Great advantages when used in connection with metol have been reported, but a few comparative experiments have not borne out these claims.

The greater rapidity with which development proceeds with the phosphate might be taken as an advantage, but it is only apparent and not real, as the same result can be obtained by increasing the amount of carbonate used.

Whether the phosphate has less tendency to cause frilling than the carbonate can be settled by experiments made under the natural conditions prevailing in summer.

ECHOES FROM FRANCE.

BY CHAS. GRAVIER.

THE most interesting question of the moment is the reproduction of colors by photography. I have already spoken of this in former "Echoes," and my readers are doubtless well acquainted with the progress of events; but the fever does not seem to abate, notwithstanding the fact that two individuals have received sentences of imprisonment for fraudulent representations in the matter.

We shall presently have nothing to envy the Americans, for expert manipulators are agitating various processes, and, like the famous Parson Hill, make use of the credulity of the public to arouse curiosity and interest capital. Quite recently the financial operators of at least one process have transferred their base of operations to England, and an inspired article relating to their efforts appeared in the London *Times* of January 30th. It is one of the first stones of the edifice, with a foundation of clay, which is to be raised for the solution of the great problem: photography in the colors of nature. Next month I hope to write more fully of this remarkable process. Another method is still in its infancy, and we shall hear of it a little later. The inventor of this method showed me his results some months ago, but discontinued his visits because I lacked faith, and my sight was so defective that I could not see that green animals and people were true reproductions of these things as they are in nature. He has, however, actually found a banker, the Mecaenas of other infallible processes of color photography, so faith is not yet extinct!

Much attention is being given to the photography of animated views, but what dominates all is the seeking for a cheap brilliant light for their projection. After the application of the Auer incandescent system to lamps burning oil, kerosene, or alcohol, we now have the burner taking its place for the introduction of acetylene.

Here is a *résumé* of a lecture recently given in Ghent by Mr. Van den Berghe on "A Process for Preventing Explosions of Acetylene."

After having stated that Prof. Moissan in desiring to melt chalk in his electric furnace had found at the end of the carbon electrodes a body which, in contact with water, gave off acetylene, the lecturer dealt with the question from the threefold

point of view of economy, science, and safety.

Referring first to the experiments of Messrs. Pictet and Berthelot, the lecturer spoke of the recent demonstrations of the eminent chemist mentioned above, in which acetylene is classified among the *endothermic* bodies, and, consequently, *explosive*. He then explained a new mode of treating acetylene, after which there is no danger of explosion, by causing hydrochloric acid (in the proportion of one-third acid for two-thirds water) to act on carbide of calcium as a moderator of the production of the gas.

By this process the giving off of the acetylene becomes very regular, the heat is disseminated uniformly through all the mass, the chloride of calcium which is formed falls to the bottom of the apparatus, and the reaction is prolonged as long as there is any trace of carbide. This does not occur when operating with water alone, in which case the lime formed remains in suspension and deposits itself on the carbide whose reaction weakens until it completely ceases.

It is to obviate this defect which may attain dangerous proportions when operating on a large quantity of carbide—from the fact that the envelope of lime formed constitutes an explosive substance—that Mr. Van den Berghe showed the happy results obtained by him with the aid of an appliance of which the following is a brief description:

A glass cylindrical recipient, closed by a simple wooden cover, is almost filled with a bath of hydrochloric acid diluted in water, in which is plunged a glass tube containing carbide of calcium retained in the lower portion by a cork pierced with holes.

Under this tube is a glass funnel destined to convey the chloride of calcium to the bottom of the recipient without spreading in the solution of diluted acid. This funnel is supported by a wood tripod, which also serves as a support for the generating tube.

The upper portion of the tube, which passes through the centre of the cover, is hermetically closed by a cork furnished with a small, bent, glass tube having a stopcock.

At any distance from the principal apparatus is a glass capsule, or purifying tube, containing lime to dry the gas, and closed at the top, as in the case of the preceding tube, by a cork, through which passes a small tube communicating directly with an ordinary gas-burner with two openings (platinum or silver). The purifying tube is placed in communication, by its lower position, with the bent tube on top of the generating appliance by a rubber-tube. As soon as the cock is opened the acetylene gas escapes, passes into the dryer, is purified, and afterward burns with great intensity, whilst the chloride of calcium falls to the bottom of the receptacle, and all this as long as the carbide lasts. When the cock is closed all production of the gas ceases, but is resumed regularly when it is again opened.

In this way not only all cause of serious explosion is eliminated; but, again, in case of explosion in any part of the tubing the accident does not affect the whole apparatus.

The only objection so far discovered is the formation of a slight deposit of carbon on the opening of the burner, which, in time, might prevent the flow of gas.

In the later systems of lighting that have been proposed is found a series of needles placed in the interior of the burners, and which, when desired, clean out at the same time all the openings.

We are approaching, therefore, we believe, the practical industrial use of acetylene, and it should prove an excellent mode of lighting for projecting and enlarging lanterns.

CARBON PICTURES AND PLATINOTYPES.

BY THOMAS AQUINAS.

It so happened a few weeks ago that I had an opportunity to look over some of the best work produced during the past two or three years by about a score of our most notable professional photographers. What a treat it was! In the collection were pictures from the studios of Stein, of Milwaukee; Strauss, of St. Louis; Steffens, of Chicago; MacDonald, of Albany; Davis & Sanford, Hollinger, Gilbert, Ess & Eppinger, Mendelssohn, Falk, Anderson, Rockwood, Dana, Dupont, Cox, the Carbon Studio, and Alman, of New York; Appleton, of Dayton; Phillips, Gilbert & Bacon, and Bridle, of Philadelphia. There were some others whose names I have forgotten, but the list given is enough to cause the average reader's "mouth to water." They (the pictures) were grand. Photography seemed to be uplifted. But to describe their beauty, delicacy of line, and light and masses, their ever-varying gradations of tone and tint, their rich depths accentuated by most carefully controlled effects of light, is beyond my pen, and I will not attempt it.

One thing, however, I brought away with me and made my own—a conviction that the photographer who seeks to achieve the highest possibilities of his art, and equally the man whose ambition is bent on making the most profitable sort of work in photographic portraiture, *must* use, more or less exclusively, either the carbon or the platinotype printing process. The following of imitations, however subtle and alluring, will not do; for those who would be first, the real thing is an essential to success.

"Upon what ground," asks Self-complacency, "do you base so bold and sweeping an opinion?" If, indeed, it was only an opinion I would not venture to assert it with so much freedom. For I am, withal, a modest man among my fellows, though as enthusiastic as the loudest of them where fraternal help is concerned. But what I have stated is so strong a conviction that I am constrained to ease my mind by its expression. I will explain:

In the collection of work mentioned I saw the selected efforts of men who are admittedly unsurpassed in their profession. The wonderful possibilities of photography in its highest and noblest application—portraiture—revealed themselves, as the beauties of a landscape are discovered when the sun emerges from behind a cloud, as my eye wandered from one picture to another. And every picture was either a carbon or a platinotype! What a remarkable pronouncement lay in that fact; what a triumphant unanimity! When the master minds were brought together on the great question of the best available method of projecting upon paper the magic image given by the lens there was seen but one opinion, that the choice lay between two processes, carbon and platinotype. Here surely is an idea of value to those who are striving for advancement.

Then the other side of the matter, the monetary value of the opinion, is worthy of a thought. The men who so decidedly pronounced in favor of platinotypes and carbons as the highest and best of our printing processes are those who secure the most remunerative prices for their work. Is not that a significant fact? Does their opinion in this important matter of the print result from their high prices, or do the high prices result from their following of the opinion? The sensible man will judge for himself. Let no one dream that

I harbor the insane notion that the patron will pay double or treble the usual rates merely because his portrait is on platinum or carbon paper. Our customers come to us for the gratification of a multitude of desires embodied in a photograph. In all worthy portraiture there must be likeness, there should be grace and attractiveness, character and life. But the form—the outward appearance—the actuality which presents all that the patron seeks, has much to do with his appreciation of the thing, and his willingness to pay what is demanded for it. This word, therefore, is chiefly for those who feel themselves equal to the securing of the negative, but lack, or think they lack, a proper judgment as to the print. If these will put aside the weaklings on which they have hitherto relied and make themselves skilful in platinotype and carbon printing, I am much mistaken if they do not thereby add pleasure to their pursuit of photography and put money in their purses.

METALLIC PARTICLES IN PHOTOGRAPHIC PAPER.

BY DR. LEO BAEKELAND.

THERE are few examples of chemical preparations as delicate as those of silver salts, which are used in the manufacture of dry plates or photographic papers. Whoever gives this matter due reflection asks himself how it is possible to handle these silver compounds, some of which are so extremely unsteady that the action of the smallest amount of light during a fraction of a second is sufficient to operate a radical change in their condition. Is there anything surprising, then, in the fact that the manufacturers of these products meet with all kinds of difficulties and ever-changing problems?

In such delicate processes of manufacturing it is of the very highest importance to use only the very best raw material and the most improved installation. In regard to the raw paper, it may be said with truth that even "the best and most expensive" obtainable is not good enough. From this the reader can judge what second-class material is worth.

A few years ago it happened that one of our customers wanted, for a special purpose, a large amount of bromide paper which had to be coated on a special kind of raw paper. This raw paper was of the "enamelled" variety—*i. e.*, paper previously coated with a layer of baryta. We ran the paper through our bromide emulsion coating-machines, and at the same time coated a quantity of our regular stock with the same emulsion. During these operations nothing unusual was noticed. When, however, the paper was tested, it behaved in a most extraordinary way in the developer. All over the prints were scattered millions of little white spots. The smallest of the spots was about the size of the point of a needle; the largest ones were not over one millimetre in diameter. Some of them were perfectly round, while others were slightly elongated. Anyone who has manufactured bromide paper in very large quantities knows that similar spots may be produced by numerous causes, among which are included defective emulsions, defective mechanical appliances, dust, etc. In this instance, however, the cause of the trouble had to be looked for elsewhere, in so far as the spots showed only on this particular raw paper, and they appeared regularly whenever this paper was used, while the same emulsion coated at the same time and under identical conditions on the regular stock paper invariably produced an excellent article, entirely free from the imperfection mentioned.

Taking into consideration that the spots

only manifested themselves during development, I surmised that they were probably due to the aggregates of unreduced bromide of silver, which for some reason or another had lost its sensitiveness to light, and which, therefore, did not respond to the reducing action of the developer. Indeed, the paper before developing showed a very uniform appearance, and it was impossible to detect anything abnormal in the coating by merely looking at it.

However, in order to settle this question beyond a doubt, I determined to make crosscuts of the spots and to examine the section of the film under the microscope, so as to ascertain whether they were produced by any depression in the film, air-bubbles, or similar mechanical imperfections. In order to do this I proceeded in the following way:

I cut out of the prints, and in such places where the white spots were most apparent, small strips of about five millimetres wide and twenty-five millimetres long. I imbedded these strips in paraffin while holding them in an upright position, and after the paraffin was hardened I made crosscuts of the strips of paper by means of a microtome, following the methods employed in microscopical laboratories.

These crosscuts were only a fraction of $\frac{1}{1000}$ of an inch thick, and could easily be examined under the microscope. This enabled me to observe successively many cuts of the same strip, until the razor of the microtome reached the centre of the spot. Thus I was able to satisfy myself that the film presented everywhere an even thickness on any section across the spot, and that there was no depression of the film at the place where the spot was located. At this spot silver particles were entirely absent in the film, for the reason that the hypo had dissolved away the irreducible bromide of silver which had existed there. But the whole structure was such as to show that the layer of the emulsion was originally perfectly homogeneous.

Examination by reflected light under the microscope, using moderate magnifying power, had not shown any dust or foreign matters where the spots existed. In some of the white spots, however, I was able to detect a central black nucleus, faintly visible. By gently scratching the film away with a small dissecting-scalpel, so as to lay bare the underlying coating of baryta, I was able to render this black nucleus more apparent; when I had also removed the layer of baryta and had reached the actual paper base the black nucleus could be plainly observed, although it was still very small. In many cases it was impossible even by using magnifying power to detect this black nucleus at all.

In order to determine what this black nucleus was, I looked patiently over large quantities of defective prints, preferably those in which the white spots were largest. By doing so I was able to collect a few spots where the black nucleus was readily observable, and these I proceeded to dissect, as previously described. By the skilful use of the dissecting-needle I was able to isolate a few of these black particles under the microscope. At first I inclined to consider them as of metallic origin. Some of them were elongated. When treated with a drop of dilute hydrochloric acid they showed at once under the microscope a yellow-bronzed appearance, as copper would do; by treating this drop of hydrochloric acid after neutralization with ferrocyanide of potassium I was able to prove to my entire satisfaction the characteristic reaction for copper. It was, of course, impracticable to submit the smallest particles to the same treatment, but reasoning by analogy, and taking into consideration the identical shape and conformation of the small white spots, I had very good reason to believe that they were produced by the same cause. A noticeable amount

of copper was also found in the ashes of all the defective prints.

Those who have given thought to the metallic particles found in photographic paper will probably wonder that such particles should produce white and not black spots. This at least was the idea of almost all to whom I mentioned the matter, and I must confess that up to the time I made the above researches I held the same opinion. Everyone who has used printing-out papers has at one time or another observed some very well-defined black spots caused by a metallic splinter under the sensitive layer, and these spots are commonly known as "metallic spots." They are indeed metallic spots, but in printing-out papers they show themselves very shortly after the paper is made, and they are so prominent that they can be seen before printing. They appear so much the easier in such papers because the latter carry a certain amount of silver in a soluble condition, and, furthermore, the reaction of printing-out papers is always acid. These conditions favor a rapid and complete action between any metallic particle and the sensitive layer.

In bromide paper, however, the conditions are totally different. The reaction of these papers is supposed to be neutral, and the silver contained therein is in the insoluble condition of bromide of silver, so that the action of a developer is required in order to bring out the fact that metallic particles are present. I have not found any other way to explain all this than by the following theory:

Whenever a metallic particle is imbedded in or near a layer of silver emulsion it will create a special electrical condition by chemical action. The metallic particle will become "electro-negative," while the surrounding zone becomes "electro-positive." As a result the metallic particle will cover itself with silver, and will be gradually dissolved and entirely replaced by an equivalent amount of the latter metal, and this will make a black nucleus. The zone around the metallic particle being electro-positive will liberate a very small amount of oxygen or bromide or chlorine, or both together, and the immediate result is that this zone becomes insensitive to light, consequently will remain undisturbed by the developer, producing thereby a white spot.

It is a known fact that any electric current by electrolysis will decompose bromides or chlorides, setting free the chlorine on the positive electrode, while the metal will be liberated at the negative electrode.

In order to verify my views in this matter I made the following experiments: In a dark-room a sheet of bromide paper (unexposed to light) was placed in a small tray and covered with water, to which was added a very small amount of bromide of potassium in order to increase its conductibility. In contact with this paper I fastened two platinum electrodes. These were so disposed that their points touched the paper slightly and were situated at about one-quarter of an inch distant from each other. These electrodes were connected with one single Leclanché cell and left in circuit for about twenty minutes. After this time I removed the electrodes, washed the paper, and exposed it for one or two seconds to the action of the light of an ordinary lamp so as to fog the paper. I then developed the sheet with ordinary metol-quinol developer. The paper developed all over its surface to a grayish-black, except in those two places where the electrodes had touched. The position of the positive electrode was indicated by an insensitive spot, so that the developer left this place entirely white. On the contrary, where the negative electrode had touched the paper there was a sharp black point indicating the reducing action of the negative pole.

This experiment I repeated several times with the same result. I was able to produce artificially the same defect as the one referred to above, with the difference, however, that the black nucleus corresponding to the electro-negative zone was situated outside of the insensitive electro-positive zone.

When a metallic particle is imbedded in the paper or in the film, this creates a little microscopic electric cell, and the metallic particle being electrized negatively produces the same phenomenon as the negative electrode referred to in the above experiment. The surrounding emulsion film becomes then the positive electrode of this tiny electric cell.

There seems to be one objection to this explanation. It is this: When printing-out papers contain a black metallic spot in the film they do not generally show the white insensitive zone to which I refer. This is indeed an objection which has been made to me. A close investigation of the facts has, however, entirely corroborated my views in a most convincing way.

When a metallic spot appears in a printing-out paper only the black spot is visible, and no white zone appears around it, but only as long as the paper is very fresh. If, however, the paper is kept long enough so as to show pronounced symptoms of discoloration, then the white halo appears also. From that moment on the general conformation of the spot becomes entirely similar to the smaller spots observed in the defective bromide paper. The only difference consists merely in the size.

Furthermore, there is a very simple way of showing the real existence of this insensitive zone around the metallic spot even in fresh printing-out paper. All that is necessary to do is to put a sheet of the paper in a solution of diluted developer. The paper will darken at once, except in the zone immediately surrounding the metallic spot, thus producing a white halo in every respect similar to those observed in bromide paper.

LABORATORY OF THE NEPERA CHEMICAL CO.,
NEPERA PARK, N. Y.

THE BEST ADVERTISING FOR A PHOTOGRAPHER.

BY E. K. HOUGH.

THE best form of advertising is that which convinces your customers most thoroughly that you know your business and are taking great pains to keep informed of all new ideas in your line, ready for prompt and up-to-date service.

How can this be done in the most natural and effectual manner? Let us consider.

There is an old metaphysical problem asking which was first, the chicken or the egg? There is a perpetual succession of chickens and eggs; which was first, which was the cause, and which the effect primarily? In the same way we may inquire which is the cause and which the effect among photographers? We see, as a rule, that the most successful ones take the magazines and attend the conventions. Now the question is, Are they successful because they attend or do they attend because they are successful? In some cases it may be as difficult to decide as the problem of the chicken and the egg. But, as a rule, I think it will be found undeniable that successful photographers are largely so because they read and study the literature of the art and attend the conventions and exhibitions of our art products.

What more effectual advertising effort could a photographer make than to let it be understood among all his patrons that he

took one or more of the best magazines treating of his business, and filled with articles and illustrations of what was doing among the leaders and most progressive members of his profession?

If he had the ability to appropriate this knowledge and show that his skill was equal to his learning, would it not make among all his *clientèle* a better impression than any or all other forms of advertising?

And if he let it be understood that he attended the conventions and compared his work with the best in the land, obtaining from them new and practical ideas for immediate use, would this not confirm and maintain their confidence better than any form of advertising, except the exhibition of his own work showing that he benefited by his opportunities? A series of convention exhibits shown in his own reception-room, with evidence of his progressive improvement year by year, would be a standing advertisement of his wide-awake artistic development and a constant promise of good things to come. He would have the reputation of being alive and up-to-date, not fossilized into old-fashioned ways. To be in the latest fashion is as important to a photographer as to a milliner or dressmaker, and the chief advertisement of the latter is their journey each season to marts and centres of fashion, to return with new styles for their customers. They also take fashion books and fashion plates to convince their patrons that they know what they are recommending.

The photographer's magazines with illustrations of all forms of artistic work and his annual visit to the conventions are just as important and just as effectual in promoting his business interests as the others are for the kinds of business that depend upon the caprices of fashion and her votaries. To be successful you must have the reputation of being well posted, alert, and up-to-date in every way.

There is no way so likely to acquire and confirm such a reputation as the one I have tried to point out.

If it commends itself to your experience and reason, act upon it to the utmost, not only as a means of actual benefit to you by increased knowledge and skill, but as the best form of advertising, of keeping yourself before your community as one who is progressive in his line of business, and one whom they can proudly and confidently recommend.

All money invested in photographic literature and the expense of attending photographic conventions may be truly said to do double duty: "Kills two birds with one stone."

The benefit you receive, if you read and attend in the right spirit, is worth all it costs if no one ever knew but yourself that you did either; and, again, it is worth all it costs, if properly managed, if it gives no other benefit than what you derive from it as a form of advertising.

Therefore, I confidently claim that I have described the best form of advertising for a photographer. The best results at the least cost. If you need it, heed it.

NEWS AND NOTES.

The last exhibition of the Royal Photographic Society (London) resulted in a loss of $500 to the Society. This may probably be traced to the internal squabbling which has harassed the Society of late, and to the growing popularity of the Salon movement.

At a recent demonstration of the Artigue carbon printing method given before a Liverpool (Eng.) society a few weeks ago, several prints were developed which had been exposed on the train by the demonstrator during the journey between London and Liverpool.

During the past year the English branch of the Eastman Kodak Co. has earned a profit of $200,000. A dividend of 7½ per cent. has been declared, which, with the 2½ per cent. announced last September, makes 10 per cent. for the year. The sum of $105,000 has been carried forward to the account of the ensuing year.

Here is a novel style of finishing portraits to meet the demands of cultured patrons. Suppose we have a cabinet negative of a young lady, three-quarter figure, with a head about three-quarters of an inch in width. Print in platinum, and cut away the space about the figure until it just fills a space 2 x 4½ inches. Now take a piece of heavy, rough surface-paper of the familiar tea tint, and cut it to the size 6½ x 10 inches. In the upper left-hand corner, one inch each way from the top and left side, mount a piece of white or faint cream-tinted paper measuring 2½ x 5 inches. When this has dried under pressure, mount the platinum portrait on the white space, so as to leave an effective margin of about one-quarter of an inch all around it.

This style, which might be called *portfolio* size, is suited to many sorts of subjects other than the example given, and is tastefully effective in appearance. The white or cream centre mentioned, as well as the platinum print, should be made on paper as thin as possible, such as platinotype A A paper, and the mounting so carefully done that the portrait and its mount lie perfectly flat when finished. An example of the style referred to was given in the *Practical Photographer* for February, but the idea is an old one. Various modifications of the color of mounts and other details will suggest themselves to portraitists of refined taste.

Some time ago the municipal council of Bry-sur-Marne, France, opened a subscription-list for the erection of a monument to Daguerre. The amount subscribed has reached 14,000 francs, and the memorial, consisting of a column of granite surmounted by a bust of Daguerre, will shortly be unveiled within a few feet of the house where he lived.

H. P. Robinson is contributing to the *Times* a series of autobiographical sketches which furnish much delightful reading. The notes are well illustrated.

Collodion emulsion (W. B. Bolton's formula) has been placed upon the British market for the convenience of process-workers and lantern-slide makers.

Perfect Negatives. Writing upon this topic in the *Amateur Photographer*, John A. Hodges has a few words to say which apply equally well in portraiture and outdoor work. He says:

"The photographer who uses photography as a means of artistic expression does not confine himself to a particular class of subject or rendering of it, but probably selects his pictures from widely different materials, and he seeks to portray them under the most opposite atmospherical conditions. This being so, it follows that negatives made according to certain arbitrary standards will not be likely to reproduce the varied effects of nature to the best advantage, and one is therefore driven to the conclusion that the negative in each case must be made to suit the subject, or the particular rendering of it that may be aimed at, rather than attempt to make it conform to any rigid technical conventionalities. If this is conceded (and the proposition seems almost unanswerable) it must be admitted that the term 'perfect negative' has a far wider signification than the narrow technical meaning to which some would restrict it. In the opinion of the writer, the negative that produces in the

print most nearly the rendering of the subject which the photographer aims at or desires to produce is entitled to the distinction of being called 'perfect,' quite irrespective of the fact whether its technical attributes conform to or depart from the conventional canons of the technician.

"Now, in saying this, I do not want my readers to run away with the idea that I regard good technique as unnecessary or even of secondary importance. Nothing could be further from my wish or intention; my only object is to claim for the rather cant phrase 'a good technical negative' a wider, truer, and more generous meaning.

"Of all the factors which have to be considered, none have greater influence upon the character of the negative than the exposure. Its duration, or amount, will to a very large extent determine the success or failure of the result, although it is true that something can be done by development and after-manipulation to minimize the effect of the initial error. Be it remembered that I am not speaking of 'correct' exposure in the ordinary technical sense, but I am using the term in its wider signification. For example, to secure a particular effect it may be necessary to give an exposure so prolonged as to result in the production of a negative that verges upon fog. On the other hand, it might be desirable, in order to secure an effect of possibly a totally opposite character, to give a minimum exposure, yet both these negatives might properly be considered to be 'correctly' exposed if they permitted the photographer to realize, in the prints obtainable from them, the particular *preconceived rendering of the subject portrayed that he had in mind when making the exposures.*"

Flashlight Photography. Magnesium powder is most generally used for flashlight purposes. The general principle lies in the powder being blown through a flame, the earliest and simplest form in which the powder was used being by sprinkling the powdered magnesium on gun-cotton, etc. It has also been flashed by putting a little Schultz gunpowder (smokeless) on an iron shovel and scattering the magnesium powder over it. There is, however, more or less an element of danger in such methods. The two most useful combinations of flashlight powders are as follows:

(1) 2 parts magnesium powder.
1 part chlorate of potash.

(2) Equal parts of magnesium powder and permanganate of potash.

The action of the chlorate of potash and the permanganate in combination with burning magnesium liberates oxygen. Thus a greater heat is produced, a more powerful light, and perfect combustion of the magnesium powder, which is not always the case in using magnesium alone. I would recommend those who use the above powders to dry them thoroughly and separately in a moderately warm oven, and then mix them very carefully by sprinkling one over the other, as the friction of rubbing them together may so produce sufficient heat to ignite the powders, thus causing an explosion.

For home flashlight photography—that is, photographing the interior of small rooms, figures, or small groups—I recommend using the simple magnesium powder with a good and powerful lamp; and for large interior work the compound as given above, using also a combination of lamps, the number being according to the size of the interior, and all joined by means of india-rubber tubes, so that they may be fired simultaneously from one source.

Magnesium powder should be in a fine state and perfectly free from oxide or any foreign substances such as dust, wood, etc., or the actinic power of the flame will be deteriorated. During the burning of mag-

nesium, be it either wire, ribbon, or powder, dense fumes are given off, and a white powder is formed. This is oxide of magnesium, commonly pure magnesia.

In summing up the whole process of indoor flashlight work the following conditions are necessary: focus your object sharply by means of a candle held close to the object and in the same plane, or have the gas-jets burning in the room; use a fairly open stop and very rapid plates; have your lamps ready for lighting; pose your sitter, and after capping the lens draw the shutter of slide, remove the cap, and flash off with the lamp; cap the lens immediately after the flash and develop tentatively; that is, with a weak and slow developer, say half the usual pyro or hydroquinone and a little excess of the accelerator.—*J. W. Buckley.*

Photography as a Hobby is the title of number twelve of the series of Popular Photographic Handbooks published by Messrs. Percy Lund, Humphries & Co., London. It is written by "Matthew Surface," and deals with the lighter and less serious side of photography, the various chapters being well illustrated with engravings.

Photographic Life is the latest penny weekly devoted to photography and published in England. It is edited by W. D. Welford, and is profusely illustrated. We understand that it is intended to take the place of Mr. Welford's *Photographic Review of Reviews*, the publication of which has been discontinued. From a paragraph in *Life* we learn that a practical cinematograph, for taking and projection of "animated photographs," was patented by Messrs. Dinesthorpe & Croft, London, in 1889. On another page is given the results of a vote taken to ascertain the favorite photographic writer of to-day. Mr. H. P. Robinson heads the list with 510 votes. The only American writer in the list given is Abraham Bogardus, who secured 87 votes.

The Carbide Manufacturing Co. of Niagara Falls is turning out five tons of calcium carbide, for the production of acetylene, daily. The company's plant is shortly to be enlarged considerably to meet the increasing demand for its product.

Matt-surface Carbon Prints. With the commercial temporary support glazed prints are obtained, and it is sometimes desired to obtain matt-surface prints. The best way of doing this is to obtain a sheet of matt-surface opal, wax it, coat with enamel collodion, and wash till it no longer repels water, and squeegee the exposed tissue on to this, and developing, and then transferring to the final support.

The final support may be opal, wood, metal, ivory, or any polished surface, or specially rough or hand-made drawing papers. In such a case the surface must be prepared by coating with the following:

Heinrich's Gelatine . .	320 grains.
Distilled Water . . .	20 ounces.

Soak for four hours, dissolve by the aid of heat or a water bath. Dissolve also

Chrome Alum	12 grains.
Distilled Water . . .	4 ounces.

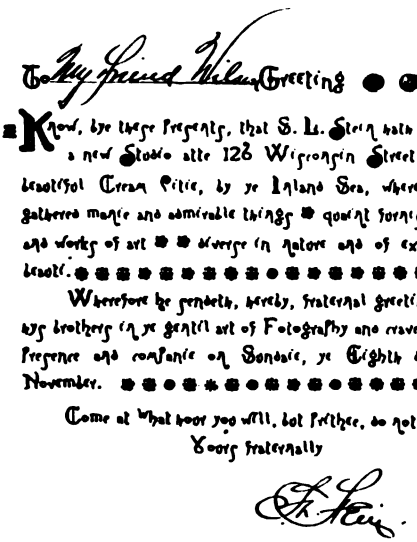
and add gradually with constant stirring while warm to the gelatine, and then filter through fine linen. The final support must be thinly coated with this.—*News.*

Obituary. Mr. C. E. Dana, well-known as one of the most popular of our metropolitan photographers, died at his home in this city, March 1st, aged only forty-four years. Mr. Dana, who was married last Christmas Day, had only recently abandoned his old gallery at 18th Street and Broadway for a more fashionable studio at 28th Street and Broadway.

S. L. Stein. *Milwaukee.*

THE NEW DRESS.

THE NEW STUDIO OF S. L. STEIN.


To My Friend Wilson Greeting

Know, ye these presents, that S. L. Stein hath erected a new Studio atte 128 Wisconsin Street in ye beautiful Cream City, by ye Inland Sea, wherein are gathered manie and admirable things & quaint furnishings and works of art & diverse in nature and of exceeding beauty.

Wherefore he sendeth, hereby, fraternal greetings to his brothers in ye gentil art of Fotografphy and craveth your presence and companie on Sondaie, ye Eighth date of November.

Come at what hour you will, but prithee, do notte fail.

Yours fraternally

S. L. Stein.

THE INVITATION.

It may be fairly said that the new studio recently opened in Milwaukee by our good friend Mr. S. L. Stein surpasses in completeness and beauty any establishment of its kind in this country. We doubt, indeed, whether its equal can be named among the many famous studios of Europe. Its location, at the corner of Milwaukee and Wisconsin Streets, is as desirable a place for the purpose as Milwaukee offers. To its equipment and furnishing was brought everything that money and a cultured taste could supply. The opening, attended by thousands of the best people of Milwaukee, with a large number of prominent photographers from other cities, was at once an occasion of honor to photography and a fitting recognition of the well-deserved success of its master and owner, to whom, with the craft, we offer our warmest congratulations.

In this brief sketch we can, of course, only mention a few of the principal features, while the illustrations cannot do more than hint at the studio's attractiveness.

The studio occupies all of the top floor and a considerable portion of the ground floor of the building in which it is located. Upon entering the visitor finds himself in a spacious reception-room with tiled floor and soft rugs laid here and there. The walls are covered with rich textured fabric of maroon color, the same material being used for the ceiling in combination with a broad band of dark sage-green. On the walls are hung photographs of every imaginable style and finish, printed for the most part in carbon and tastefully framed. A special feature of this room is a collection of pictures of ladies, absorbingly interesting and remarkable for beauty and grace. An abundance of upholstered seats and finely carved cabinets give an air of restfulness to the place.

Passing through a corridor running eastward the visitor enters what is called the art-room, as large as the one described,

PRIVATE OFFICE.

but wholly different in arrangement and appearance. The walls and ceiling are draped with tapestry. Around the edges

of the canopied ceiling clusters of incandescent lights are placed so as to illuminate only the work shown upon the walls, all light being thus screened from the observer. Two of the walls are wholly covered by a magnificent collection of about two hundred and fifty portraits of Milwaukee professional and business men. These portraits are all of the so-called Rembrandt style, and each one bears the autograph of the sitter. The collection presents a most effective display and forms the chief feature of the room in which it is hung. On the other walls are a number of the famous genres produced by Mr. Stein, many of which have secured awards at our national conventions.

Adjoining this room is Mr. Stein's private office, a very attractive den, as shown in the engraving here given. It is lighted from above, the light being screened by soft India silks. The walls are covered with darker fabrics and bear a profusion of well-known pictures presented to Mr. Stein by his co-workers of other cities. Over the desk may be seen the blade used for years by the actor John McCullough in the portrayal of "The Gladiator."

Leaving the ground floor the visitor ascends by the elevator to the suite of upper rooms and enters the charming waiting-room which adjoins the studio. This room, which is decorated and furnished after the French fashion, attracts the admiration of everyone. A luxurious rug covers the floor, the walls of striped tapestry, light in color and graceful in design, display a few choice examples of figure-work in water-colors. The ceiling is draped with lemon-colored silk twilled in rays, and the room is lighted by a tinted and leaded skylight. One side of this room is formed by great sliding doors which, when opened by the touch of a finger, reveal the

THE RECEPTION-ROOM.

THE WAITING-ROOM.

THE ART-ROOM.

studio, noble in proportion and elegantly rich in its furnishing. As our engraving shows, Mr. Stein has placed his faith in the single slant-light. To this is added a well-devised system of screens, which are used to soften, reflect, diffuse, or concentrate the light as seems desirable. About two sides of the studio may be seen heavily draped curtains. These are hung three feet away from the walls, and in the space between are stored all the accessories and backgrounds needed for the daily work.

THE STUDIO.

In a far corner one sees a glimmer of dull reds and gold. On closer inspection it is seen to be the entrance into the Turkish room, shown in our engraving. This haven of restfulness and Oriental luxuriousness is furnished with the softest and most capacious of divans, lighted by three windows of stained glass, and extra-illuminated by the light of a hanging-lamp of exquisite design. From this room one may go out upon a leaded roof which, in summer-time, is to be turned into a summer garden of ferns and plants.

There are three dressing-rooms near-by the studio. Each of these is unique in its attractiveness. The walls and ceilings are, as in the other rooms, hung with tapestries or silks, the designs and coloring, with all other furnishings, being in fine harmony with the character of each room. The favorite room with the ladies will, we are sure, be the Delft-room, a dainty apart-

ment where everything voices the spirit of the famous Delft artists and Holland. The furnishings here are all of blue and white, the ceiling being decorated with an embroidered panel. The carpet and rugs are of a deep blue.

THE TURKISH ROOM.

The ladies' dressing-room is an arrangement in tan-color, the furniture is of bird's-eye maple, and tapestries in harmony with the general scheme. The gentlemen's dressing-room is furnished and draped after the style used in Mr. Stein's private office.

In the work-rooms everything that experience could suggest has found a place, so that this part of the establishment provides not only abundant room but perfect equipment for the production of the best possible work. The dark-rooms have cemented floors, and are well ventilated. The printing-rooms are fitted for the changing and manipulation of several hundred frames at once. In these working departments cleanliness, economy, and perfect system go hand-in-hand with personal comfort for the workers, and have their part in the making of the success achieved by Mr. Stein. The store-room holds among other supplies, in quantities almost sufficient to stock a supply-house for the trade, an immense pile of Cramer plates which Mr. Stein uses exclusively, holding them as the best the market offers. The pictures used for our illustrations herein were all made on Cramer plates, and their technical beauties speak eloquently for the quality of this favorite brand.

DELFT-ROOM.

LADIES' DRESSING-ROOM.

One of the latest pictures made under the new light may be seen as an inset to this number. It is an excellent example of Mr. Stein's best work—embodying not merely likeness, but good photography with grace and feeling.

Of the master of the studio we need say little here. He is already well-known to our readers and all American photographers. An account of his life and work, with some of his successes, was given in the April, 1895, number of this MAGAZINE. His pictures of women and children, as well as his more ambitious compositions, have many times embellished our pages and won admiration at home and abroad. The success of which this grand home of photographic portraiture is the outward sign has been won in hard fights of over twenty years. It is a great success, and should inspire our younger men to new efforts, but it has been well earned and is justly deserved. May it follow our old friend and co-worker to the end.

TWO CHARACTER PORTRAITS.

Robert E. Wescott, Lowell, Mass.

FLORENCE ROBERTS AS "MARGUERITE." LEWIS MORRISON AS "DANTE."

IN the unending practice which goes to the making of a capable portraitist, few branches of work are more directly profitable than the portrayal of characters immortalized in literature. Did photographers but realize the truth of this portraiture would advance with giant strides. For what is portraiture except the appreciation of character? And where do we find the great types of human nature so grandly delineated as in fiction and history.

Every effort of this kind, every hour given to the appreciation of character in books or behind the camera, brings in its

train lessons of immense value. It is impossible to attempt the photographic interpretation of the characters of Shakespeare, for instance, without coming in touch with the vital elements of all portraiture—the necessity of concentration of interest, the value of simplicity and appropriateness in the use of accessories, the knowledge of what must be left out, what emphasized, and what subordinated. There are other advantages: the photographer learns of the importance of the pose in expression, the remarkable power possessed by lines and masses for the production of effect, and of the part played by illumination toward the accurate rendering of the subject. Apart from all this, work of the sort referred to forces the photographer to study the masterpieces of literature, to grasp the types given therein and make them his own, widening his horizon and gathering a degree of culture which will enable him the better to properly appreciate the limitations and possibilities of his art.

This much being said, it follows that to be successful in portraiture the ambitious photographer must, at least, be acquainted with the masterpieces of character painting presented in literature and art. If he can attempt their reproduction with the camera, aided by sympathetic models, his appreciation of them will be directly turned to practical account. Those who have opportunities of photographing professional men and women who have become famous by their stage representations of well-known characters have, of course, many advantages. What a lesson for the portraitist, for instance, would there be in an hour or two spent under the skylight with Jefferson as "Rip Van Winkle" or "Dr. Pangloss." But the minor characters and simpler themes, such as "Priscilla" in the "Courtship of Miles Standish" or the "Little Boy Blue" of Field's songs, also offer a fruitful field in which models are more readily obtainable than in the higher ways.

In entering upon this kind of work the photographer should avail himself of the reproductions of famous characters given in the illustrated magazines. Every picture that holds a suggestion, whether of something to be followed or avoided, should be filed or pasted in a scrap-book for reference.

Among the younger workers who have realized the value of character portraiture as a training-school for the portraitist is Mr. Robert E. Wescott, of Lowell, Mass. We have watched his growth for some years with the greatest pleasure. From a selection of his recent work, sent a few weeks ago, we have chosen two examples to illustrate this article. They represent Mr. Lewis Morrison, as "Dante," and his charming wife, Florence Roberts, as "Marguerite." All who are familiar with the historical portraits of the great Florentine and of "Marguerite" will agree that Mr. and Mrs. Morrison, with Mr. Wescott, have played their parts most skilfully in the making of these pictures. We are glad to present them as examples worthy of careful study and admiration.

Mr. Morrison, who, by the way, is a native of Jamacia, W. I., has achieved fame by his portrayal of "Mephisto" in "Faust," which he interprets as cleverly as his wife the part of "Marguerite." The counterfeit presentment of "Dante" is a fancy of his own, well conceived and carried out.

A word or two about Mr. Wescott will not be out of place here. His experience in photography dates from 1881, when, as an amateur twelve years old, he began to dabble in the fascinating art. For the past six years he has been located in a model studio at Lowell, Mass., where he has built up a healthy and profitable business. We know of few photographers so eager to learn, so earnest in the desire to study all that can help toward growth, or so conscientious in their work. We wish him more and more success.

THE VALUE OF ORTHOCHROMATIC PLATES IN COLOR REPRODUCTION.

PROBABLY no other man in the United States has so thoroughly investigated the question of the reproduction of colors by photographic processes as our veteran co-worker, Mr. Edward Bierstadt, of this city. His opinion of the value of orthochromatic plates for this purpose, as tersely and practically given in the following letter, represents the experience of many years of systematic efforts toward the solution of the problem:

DEAR MR. WILSON: About the value of orthochromatic plates for color reproduction I can only give the conclusions I have come to in my own experience.

In experimenting with the various brands of plates, both the orthochromatic and the common, I first looked for the desired effect without reference to the length of exposure; I found it possible to get it on plain plates as well as on orthochromatic; the effect is entirely produced with color screens or ray filters; it is, of course, very slow work; yet my first color reproduction, made in 1886, was done in this way.

Then it became necessary to find some method of accelerating the exposure by means of a bath which would make the plate more sensitive to some colors than to others.

The orthochromatic bath came nearest to supplying this want, yet in my practice the orthochromatic plates as now furnished by the trade are excellent for photographing color-values; that is, through a yellow screen; and also for working through a green ray filter, for the plate to be printed in red.

I very much prefer to use a *plain* plate for working through violet, the regular orthochromatic plate for the green, and a specially prepared plate for the orange-red screen.

Then, again, different makes of plates require different treatment to produce the same result.

EDWARD BIERSTADT.

PAPERS FOR PROFESSIONAL PHOTOGRAPHERS.

BY JOHN A. TENNANT.

XXIV. AN ORDER FOR ENLARGEMENTS.

A New York State subscriber, having secured a cabinet portrait negative of a local celebrity, was induced to quote a low price for 300 14 x 17 enlargements of the picture, to approximate platinotypes in appearance, and to be fairly well finished and mounted on plain cards. In answer to his query as to the best available process for the purpose, knowing the price, I suggested bromide paper. His answer was that he did not like bromide, but wanted something which would require less finishing on the print, less expensive, and more artistic in appearance. Moreover, he wanted to do the work in his own establishment, and had no facilities for enlarging on bromide paper. Of course, platinotype or aristo-platino paper were out of the question because of their expensiveness. I, therefore, mentioned silver prints on plain paper as a further suggestion. "The very thing," he replied, "but where can I find a reliable method?" The method I sent him, which proved quite successful and gave prints very closely approaching platinotypes, was as follows:

Two 14 x 17 enlarged negatives of the original were first made in the camera. By careful manipulation these were secured

without any waste of plates, brilliant and yet quick printers. They were then well retouched and "faked" to make effective prints by straight-out printing without further dodging. A sufficient stock of Saxé plain paper was then cut up to make 320 pieces measuring 14 x 17. Saxé paper was chosen because, being sized with starch, it gives purple prints such as are desirable for platinum toning. The back of each piece was marked with an X in order to distinguish the right side in after-manipulation. Each sheet was then salted by being bodily immersed in the following solution:

Ammonium Chloride . .	1½ ounces.
Potassium Bromide . .	12 grains.
Potassium Bichromate . .	4 "
Water	80 ounces.

As each sheet was immersed the upper surface was brushed with a camel's-hair brush to remove all air-bells, then the sheet was turned over and the other side similarly treated. When the bath contained six sheets manipulated in this way, the undermost sheet was withdrawn, drained by being drawn over a glass rod, and suspended by two corners on a rod to dry. This proceeding was repeated until the 320 sheets had been salted, dried, and stored away between blotters under pressure.

The sensitizing bath was now prepared, consisting of 96 ounces of water and 12 ounces of nitrate of silver, made decidedly acid by adding citric acid until a piece of blue litmus immersed in it turned red. Twenty-five sheets of salted paper were sensitized by floating for five minutes on this bath, the paper being sensitized each night so as to be ready for the following day's printing. These twenty-five sheets, exposed under the two negatives, gave twenty-five prints daily. After being washed as usual the prints were immersed in a 10 per cent. solution of common salt, to convert any free nitrate of silver remaining into chloride (to prevent any staining of the whites in toning). They were then toned in the following bath:

Potassium Chloro-platinite .	8 grains.
Salt	80 "
Dilute Phosphoric Acid . .	½ ounce.
Water	64 ounces.

When toned the prints were washed, first in running water, then in a solution of salt 8 ounces, carbonate of soda 1½ ounces, water 80 ounces, and again in running water. Each print received a thorough fixing, and was washed for ten minutes in a Hyatt automatic washer. At the end of each day the prints were slightly dried off and mounted while damp. In this way, one man and a lad doing the work, the 300 prints were finished and delivered within two weeks, with a waste of only ten prints. As a matter of course, the mounted prints were spotted or touched here and there with India ink, but careful retouching of the large negatives obviated any necessity for much work on the prints. The customer was well-pleased with the work and the photographer surprised at the unexpected profit realized at the price given, viz., $75 per hundred prints.

It will doubtless occur to many of my readers that there are opportunities now and again, in lodge, association, or commercial work, where such an order as this might be secured with a little trouble. *Verbum sap.*

OUR PICTURES.

In the pictures illustrating this number of the Magazine the ambitious photographer will find abundant material to help and encourage him in his growth. Our idea in their selection has been to set forth, in some measure at least, the progress of picture-making in the studio. This branch of photography has received considerable

attention of late years, and affords an excellent training-ground for the would-be artist in photography. While it is true that much clever work has already been accomplished in this direction, it cannot yet be said that the scope and limitation of all such efforts have been fully comprehended. We suggest a more diligent study of the principles involved before any actual work is attempted; and that more careful thought be given to the preliminary stages of each and every effort. The current magazines and the inexhaustible supply of cheap reproductions of the works of masters afford ample food for thought of this kind. Those who possess a copy of Burnet's *Essays* will do well to read and re-read his words on *The Education of the Eye*, which may be regarded as the first step in the appreciation of art. *Quarter Century in Photography* and *Photographics* also offer profitable instruction. "The Coquette," which serves as our frontispiece, is an excellent example of the everyday work produced at the studio of Mr. W. M. Morrison, Chicago. It exhibits a thorough appreciation of the best side of the subject, and its bold treatment contains many valuable suggestions for those interested in the portrayal of the figure. It will be recalled that Mr. Morrison secured the gold medal in Class A, at Celoron last year, and the grand prize of the P. A. of A. Convention of the previous year. Going back another year, to the convention of 1894, we find that Mr. Morrison was awarded there the Grand Prize, a diamond badge, while at the World's Fair of Chicago, 1893, his work received the highest award in its class.

J. B. Schriever. Emporium, Pa.

THE MADONNA.

Other examples of his work are engraved and given as an inset in this issue. They are conspicuous for their simplicity and directness of treatment, by which grace and vivacity are obtained, while the likeness is preserved.

The thousands of admirers of the work of Mr. S. L. Stein, of Milwaukee, will, we are sure, be delighted with the "New Dress," which he sends to show the capacity of the single-slant light with which his new studio is fitted. Here, again, the

charm of the picture is seen to lie in its simplicity. The pose, lighting, lines, and expression are all directed to the telling of the story. We are glad to be able to present so admirable a piece of photography. In the engravings of the Stein studio, thanks to the genial courtesy of its proprietor, we offer a comprehensive view of this notable establishment.

The two character portraits, representing "Dante" and "Marguerite," are spoken of in the article they illustrate, to which we refer our readers. They carry out the *motif* of our current issue, and deserve close scrutiny.

The pictures which accompany this notice are engraved from the best examples of photographic work shown at the Pennsylvania Convention, "The Madonna" is the work of Mr. J. B. Schriever, Emporium, Pa. It was chosen to represent Pennsylvania at the forthcoming national convention, but on Mr. Schriever's explanation that, on account of the advantageous conditions of illumination obtainable at his branch gallery at Elmira, N. Y., it was made in that place, and not in his Emporium studio, the honor was transferred to the picture of an old man reading, exhibited by Mr. W. M. Flickinger, of Bethlehem, Pa., as being made in the State. Both pictures well deserve the attention and admiration given to them. Mr. Flickinger has skilfully caught the spirit of his theme, and has arranged the details of his composition so that the interest centres in the figure. Mr. Schriever's picture is of an entirely different order and relies upon the concentration of its force in the expression. It is a capital piece of work, well conceived and carried to completion, preserving the sense of proportion admirably, and holding a rich promise for his future work.

W. M. Flickinger, Bethlehem, Pa.

A QUIET HOUR.

LANTERN SLIDES FOR COLORING—RIGHT ONES AND WRONG ONES.

BY A. G. MARSHALL.

AFTER coloring lantern slides enough to make a "continuous show" all the year round, including every conceivable subject from the nebular theory of creation to President-elect McKinley surrounded by a wreath of laurel infested with goldbugs,

and "done" upon every conceivable basis from bare glass to dried coffee jelly, I have discovered a fact which I knew all the time, viz., that slides fit to be colored are just as easily made as those colored to be "fit." And yet it is the lamentable truth that not one slide in a hundred is made in the best way for the reception of color.

The shortcomings of slides designed to be colored may be either technical or artistic, or more likely both. A slide may be defective by reason of poor materials, hasty or unskilful making, accident, or the use of improper chemicals. It may also fail in matters of density, hardness of detail, use of non-orthochromatic negatives, and improper selection of subject, point of view, and illumination. The last three points are beyond the province of the present paper, which will indicate simply the qualities to be sought and to be avoided in making slides designed to receive and project the colors of nature.

Slides designed to be colored may be made either by the wet-plate or the dry-plate process. Whatever may be urged in favor of wet-plate slides in black and white, I much prefer the *right sort* of dry-plate slides for coloring. Note the italics. I have to color all sorts, and I get the right sort, from the technical standpoint merely, about once in six or seven times. Some have leather films, alum-tanned, that are about as easy to color as a duck's back is to wet. Others have soup-stock films, which quickly dissolve under the brush. And still others, innocent seeming, possess latent powers of swift or slow destruction or spotting or alteration of the colors laid upon their deceptive surfaces. Lastly, I am ashamed to say that sometimes slides are more or less embellished with nasty greasy thumb-tracks, which might be highly profitable to "Pudd'n'-head Wilson" in the identification of criminals, but are quite useless to the slide colorist.

The selection of the plates to be used in making slides is of prime importance when it comes to coloring. With all the various merits of a host of brands, there are many that are not the best when they have to submit to the brush. I am not in the pay or devoted to the interest of any plate-maker, but I feel no hesitancy, in spite of that drawback, in naming the plate that makes the best slides (when properly handled) for my purpose. That is Carbutt's gelatino-albumen transparency plate. Next the Seed plate and Riley Brothers' plates seem to give best results, but of these I speak from less experience. Most other brands seem to be too soft unless thoroughly alum-soaked, which greatly injures them for receiving even washes of color. Of equal importance is the developer. I am somewhat suspicious of iron developers. Metol, rodinal, and amidol and their compounds are totally inadmissible, as they react upon the colors, destroying them in a few minutes at times, in a few days at longest. Hydroquinone, eikonogen, and pyro are safe developers, probably the best being the formula printed upon the Carbutt plate box. Cutting down or clearing with cyanide is to be avoided. It rots the films. Use plenty of bromide instead, or make another negative from the slide if weak, and intensify this negative to get a stronger slide from it. Hypo must be very thoroughly eliminated, or it will spot and destroy colors and eventually the photographic image. Use as little alum as possible and avoid frilling. As often used the colors crawl and take unevenly, unless the slide is macerated in some solvent that endangers the whole film.

Wet-plate slides are of two general kinds, albumen and collodion. The former are very clear and beautiful, color well, and have only one great drawback—they are very apt to be full of pin-holes. An old maker of these slides says that "the albumen when setting has a magnetic affinity for every particle of dust in the room."

The slides made by Levy, of Paris, are albumen plates.

Collodion slides were long my *bête noir*, as all possible abominations were wont to congregate upon a single plate. It is rare now that I encounter one that is unmanageable, but they are often troublesome from one cause or another. The worst I have ever met evidently contained free silver nitrate, as everything applied to them in the way of color, and even a resisting varnish, were soon attacked by black patches. Collodion slides should be made with old, ripe collodion, and be hard enough to stand moderate handling. Imperfect cleaning of glass before applying the collodion may cause scaling of the film. Intensifiers, if not well washed out, may react on colors. I have met with collodion slides which from some cause, apparently chemical, produced myriads of minute bubbles in the coloring material, scarcely visible, not showing upon the screen, but yet not desirable. Sometimes such bubbles have been found beneath the film, and in such case might eventually cause a scaling.

Slides are often varnished. This should never be done. It greatly increases the difficulty of coloring, and may endanger the colored slide in the heat of the lantern, besides almost invariably holding dust-specks, which show badly on the screen with the electric projection, which is coming more and more into use. For the same reason bubbles, scratches, and specks in either glass must be carefully avoided. Raggy and poorly cut mats often sift dust and fibres between the two glasses of a slide. Mats, again, may be an unsuspected cause of deterioration of slides, both colored and plain, especially of collodion films. I have often noticed a difference in surface where the mat had impressed the edges, and many times a fading of the image, a yellowing or almost complete bleaching has been found in the exact form of the mat. Free chlorine is the probable cause.

A source of great injury to colored slides is dampness, from which they should be carefully preserved. They should also be kept away from sunlight, and all light, in fact, when not in use. Though permanent in the lantern light, there are no transparent colors that will long survive direct sun-rays, and diffused sunlight in the presence of the gases of the atmosphere cannot be especially beneficial. Sealing slides with balsam of fir undoubtedly is a preservative; but it is a tedious, dirty, and expensive process, and a source of continual annoyance to the lantern-operators from oozing out in the heat. To be quite successful it requires plate-glass slides and covers.

The artistic shortcomings of slides are many. Chief in the list stand the use of non-orthochromatic negative plates and too great density in development of the slides. There is now no excuse whatever for the employment of any but the best orthochromatic negative plates. If one doubts their value a comparison for one minute of a bit of foliage and an orange-colored flower taken with an "old-timer" and an ortho-plate will teach him the difference.

It should always be remembered that the shades of the photographic film are so much black and gray, or dirt, in the colors. Nature's colors are pure, even if faint, blackness and mud having no place in them. With the majority of slides expected to be colored there is more or less (generally more) mud, that degrades the purity and injures the truth and beauty of the result. This might all be obviated by less density. If one has the skill, retouching of the negative or screening, or local development, may be resorted to, so that less density will appear in the transparency. A perfect test of the best state of density for a slide to be colored is to place it film

down on a sheet of white paper. If perfectly right, it should show pure white in light and detail through the shades, exactly like a print on paper. Most slides, however, will be found to show only white in places and the rest almost an unbroken silhouette. And yet it is expected that these blacks will come out delicate green and rose, and saffron, and even white, as I can show by many a direction for coloring accompanying slides suitable to illustrate Byron's "Vision of Darkness."

I have stated that certain dry-plate slides are best, all things considered, for coloring. There is one exception to be made. If alterations are required, involving the taking out of portions, a collodion slide should be made, as the gelatine film cuts or tears out poorly, and will show a line at the edge in the electric light.

For moonlight and night and storm effects slides should be made, if possible, enough darker than usual to be about as dense as the effect desired, leaving only the color to be added. I advise this, as all building up with body color is best avoided, if possible, the photographic film having more transparency and less granulation.

Collodion plates, again, are best for these effects, as light, stars, moon, etc., can be readily taken out. The tone of a slide may materially assist the colorist. For landscape subjects a decided blue or cold purple tone is desirable. For portraits and figures the tone may be warmer with advantage.

THE BICHROMATE GUM PROCESS.

We print the following translation of an article in the *Photo-Rundschau* as offering a valuable suggestion to advanced workers in portraiture and landscape. The method outlined is simply a revival of the almost forgotten early pigment processes, but in intelligent hands, capable of modifying and adjusting its principles when necessary, it may be made to produce prints of undeniable beauty. It is essentially a process for those who seek original effects, prints unlike what are commonly accepted as photographs. The manipulation takes considerable time and skill, but some of the modern bichromate gum pictures, as produced by Demachy, Raphaels, and others in Europe, fully reconcile one to the trouble involved in their making. The prints, as need hardly be said, are as permanent as any other form of carbon prints; the choice of color is wholly within the hands of the worker; and the plasticity of the materials used offers opportunity for any desirable amount of modification or hand-work in the print. An interesting little paper on the subject, which may be referred to with profit, was given at page 154 of *Mosaics*, 1895. An engraving from one of Demachy's bichromate gum pictures, typical of the method, may be seen on page 87 of *Photograms* of 1896.—Ed. W. P. M.

At the last Berlin Exhibition of Amateur Photography much attention was attracted to the pictures from the Vienna Camera Club, and also from France.

It was not only their artistic qualities which made them special objects of admiration, but great interest was shown to understand the printing process employed.

They were of that class of photographic pictures known as bichromate gum prints, and the method of producing this beautiful style of picture we shall now endeavor to explain, entering somewhat into detail as set forth in a recently published paper in the April and July numbers of the *Wiener Photographischen Blätter*, by Herr Watzek.

The essential to success is, first of all,

the selection of a suitable negative. A negative of any kind will not produce good results. It must be one which is characterized as soft and rather thin.

Make a 40 per cent. solution of gum, to which is added, to prevent fermentation, a few drops of carbolic acid, then a 10 per cent. solution of bichromate of potash, to which the coloring matter or pigment is added, lampblack being the substance most generally employed, although indian-red and prussian-blue are to be recommended.

The mixture for use consists of 1 part of the pigment and 1½ parts of the gum solution, which should be well mixed with a brush on a palette or plate, and thinned as much as desired by the solution of bichromate of potash.

The coating upon the paper should not be thick and as smooth as possible. The operation may be performed by subdued daylight, but the drying must be done in darkness.

The paper to be selected should be well sized and not too rough a surface; drawing or water-color paper which has been previously sized well will be found applicable.

The time of exposure depends of course upon the strength of the light, the negative, the thickness of the film, and the color of the pigment employed.

Blue-tones copy more rapidly than other colors. Too short an exposure is to be avoided, as the print can be saved if over-timed.

In bright winter days, with diffused light of day, one-quarter to one-half hour will be sufficient time for exposure.

The development can be done in open daylight, the paper being well saturated with water on both sides, and the superfluous chrome salts removed by agitating the developing pan to and fro. This operation will last about five minutes.

Now place the print, film side down in the dish, in cold water, and let it lie until the image appears fully clear. This may take from six to twenty-four hours. If warm or lukewarm water is employed in place of cold water, the time of development may be reduced to a quarter of an hour. For correct exposures cold water is preferable, the hot water being reserved for over-timed prints. When the prints are very much over-exposed recourse must be had to a hair-pencil dipped in cold water and applied to the surface of the picture to remove the superfluous pigment. A very soft brush must be used, as every stroke is made apparent in the finished print. Finally, the prints when fully developed should be washed with cold water and dried in the air.

If the image on the development with either cold or warm water appears quickly and the high-lights cloud over, it is an evidence of under-timing or of the presence of too much gum, or else the paper was dried too quickly.

If the pigment adheres too tenaciously to the paper it is evidence of over-timing or the use of too little gum, or the drying, after coating the paper, was not sufficiently expedited.

It is very difficult, also, to procure pigments of the right kind. Brown ochres are too hard and cross-grained. The lakes give fine-grain and soft pictures, but without much depth of tone. Carson paper (drawing-paper) gives brilliant prints. Water-color paper (aquarelle paper) must be sized with a 2 per cent. solution of gelatine before being sensitized. Dr. Just, of Vienna, has introduced in the market a new variety of sized paper which is very convenient for this process. The more gum the solution contains the harder the print will be and the coarser the grain; the less the gum the softer the middle tones, but also the flatter the print. Excess of gum demands longer exposure. When the exposure has been excessive a little washing soda (sal soda) or muriatic acid

should be added to the water used for development. Potash acts still more vigorously.

Great difficulty is experienced in copying landscapes with cloud effects by this method. The clouds in the negative should be thin, while it is necessary to expose a long time in the printing, so that when development takes place the result is that in bringing out the landscape properly the sky is too dark.

In such cases dry the print and then resoak it in cold water and wash out the color from the sky by means of a soft hair-pencil. According to Kuhn, strong prints can be obtained by adding to the warm developing-water some sago-flour, as in the Artigue process.

If the instructions here given are carefully followed out it is claimed by the devotees of this process that pictures of extraordinary beauty can be produced, but it would seem that there are too many contingencies in the case to warrant its adoption by the majority of amateur photographers. Success cannot be promised with the application of only the usual amount of care, skill, and painstaking which the average worker is willing to devote to any process. Moreover, it seems that the boundary-line here between photographic copies and hand work is not sufficiently distinct to distinguish it above other processes in which, when the photographic method leaves us in the lurch, recourse can be had to artistic brush-work to fill out the deficiencies.

M. CHASSAGNE'S COLOR PROCESS.

A Possible Explanation.

BY WILLIAM GAMBLE.

Though I have not seen any of the results of the process of M. Chassagne, and can only judge by the published descriptions, I seem to recognize it as an old friend in a new disguise, though, I must say, never assuming the parti-colored coat before. I may be mistaken, and may do the inventor an injustice, in supposing the method I am going to describe as the basis of that which he adopts; but, even if my theory is correct, there is all honor due to him for the very clever adaptation of a chemico-physical effect, which ought to be well known, but which is so often forgotten that almost every year the idea is repatented.

It is now nearly sixteen years ago that Captain G. Pizzighelli, in the course of some experiments, undertaken by Dr. Eder and himself, on the use of potassium bichromate in the dry-plate process, discovered some remarkable properties in gelatino-bromide plates treated with bichromate. Amongst other things it was found that a negative placed in a solution of potassium bichromate, dried and exposed, the reversed side to the light, until the picture was faintly visible on a piece of silver paper in contact, possessed after washing a new characteristic. The transparent parts of the negative became horny and not affected by aqueous solutions, whilst the dark parts in immediate contact with the glass were rendered insoluble, though they retained their power of swelling up, and therefore remained liable to be acted upon by any solution. This property was taken advantage of for intensifying purposes. The negative thus prepared could be treated with the ordinary pyro-silver intensifier of the collodion process without fear of the transparent parts being stained. The action of the intensifier was indeed proportionate to the ab-

Wm. M. Morrison. *Chicago.*

SUGGESTIONS IN POSING AND LIGHTING.

sorptive power of the film, and this was in the same ratio as the original light action (*Photographische Correspondenz*, 1881, p. 43).

It was further found, and described in a later issue of the same journal, that a gelatine negative treated in this way possesses generally the same properties as a collotype plate, and that fatty ink could be applied and an impression taken in the usual way. The means adopted to render the plate more adapted for this purpose need not be here described, as they are not important in their bearing on the subject in hand.

Before considering the applicability of this idea to color photography I may call attention to the numerous processes which are based on the discriminating hygroscopic properties of gelatine treated with bichromate; for instance, the powder process used in photo-ceramics. Quite recently I was in conversation with a gentleman who claimed to have a color process in which the colors in powder were simply dusted on to the paper or plate, which took up the requisite color in different parts corresponding to the colors of the original. I think I can see that, if a light-blue color was applied first, it would "take" all over, drying up the lightest parts, which would naturally be blue, but leaving a darker tone still tacky. Now, if green was next applied, it would not "take" on the light parts, but in darker tones the tackiness would still exert its effect, allowing the green to more or less cover the blue. Next a red powder is applied, and, whilst not covering the light blue nor the shades of green, would be attracted by the red shades being naturally darkest and most hygroscopic.

If we substitute dyes for the colored powders, we appear to be very near to the fundamental principles of M. Chassagne's process. In the same way, if in place of the intensifying solution in Pizzighelli and Eder's process we can apply dyes, we nearly account for the statement that in Chassagne's process an ordinary plate prepared in a certain way (*i. e.*, probably by some treatment with bichromate) is used. What is applicable to a gelatine film on glass is equally applicable to a film on paper.

Of course, there are various difficulties which present themselves against such a theory; for instance, the primary difficulty of the first-applied dye washing out and combining with the second and third; but these are troubles which M. Chassagne has apparently solved. I have not had the time, nor have I the facilities handy, for putting my theory practically to test, but I hope the hints I have given will lead readers to experiment on these lines, for, even should the theory be an incorrect one, it seems to offer a promising field for a three-color process. I strongly incline to the belief that M. Chassagne's method is somewhat analogous to collotype. Workers in that process know how readily the plate can be altered in its absorption for water or attraction for ink; for instance, by the application of glycerine, alcohol, ammonia, cyanide, hypo, nitrate of lime, etc., some making it less and some more hygroscopic. Some substances affect the film in the high-lights, other things affect the half-tones, and a third class affects the shadows. Some such substances might be incorporated with the dyes in this new process. The use of what Captain Abney describes as a "mordant, in the shape of a colorless liquid containing, I should say, albumen and salt," seems to suggest something of the nature of a collotype damping or "etching" solution. The statement that the coloring must take place in good daylight suggests bichromate.

It may be urged that in a positive gelatine image the absorption of dye would be greatest in the lights where the gelatine was least hardened; but this is actually

not so, as I have proved by taking a piece of Warnerke tissue and developing it with pyro-ammonia, which, as is well known, produces an effect analogous to a bichromated film. A wash of blue dye appeared lightest in the lightest parts. Of course, this could only be that the color of the image deepened the color of the dye-stain; but it goes still further to account for M. Chassagne's process.

Again, Captain Abney does not seem able to account for the use of a specially prepared negative. May it not be simply an orthochromatized plate; or, if this is not so, is it not possible that the staining of the film with bichromate makes it, to some extent, orthochromatic? Is the transparency made from plates out of the same box? seems a pertinent question.

Captain Abney further says that the print is made on a specially prepared albumenized paper, which seems to upset the idea of bichromated gelatine; but gelatine can be combined with albumen to form a tougher film than gelatine alone, as in some photo-litho transfer papers, and in the fish-glue process, without losing its discriminative absorption qualities.

On the whole, judging from the published description, I see nothing very contrary to my theory that it is a process analogous to collotype, and somewhat on the lines of Pizzighelli and Eder's discovery. Or it may be on the lines of Warnerke's process. To identify it with the latter, it would be interesting to know whether the pyro-ammonia developer was used, or whether the paper positive was developed at all.

Whilst on the subject, I may suggest that my theory also seems to fit in with Mr. Wallace Bennetto's process. True, he says he uses no dyes; but it is not difficult to get developers, intensifiers, or toning solutions which will render approximately the three primary sensations of color, and he might apply them in some way as Eder and Pizzighelli applied the intensifier. But Mr. Bennetto says there is no silver image visible. That, however, is not a difficulty, for the gentlemen above named described how to remove it, and still leave the plate with all its absorptive characteristics. They transformed the image into silver chloride by a bleaching method—*i. e.*, by applying a solution of 1 part of bichromate of potassium and 3 parts of hydrochloric acid in 100 parts of water. The plate was then well washed and again fixed, which has the effect of dissolving all the silver chloride and leaving the film transparent.

As Mr. Bennetto has not said that he does not use three films, and as some one else has said for him that his process is no more trouble than making a collodion positive, I incline to the belief that his process is not so clever as I have given him credit for, and that he may only coat a plate with collodion emulsion, develop, fix, and color it, coat the film with a waterproof varnish—*e. g.*, india-rubber—and again coat with emulsion, print, develop, and color, repeating operations for the third color. This would, of course, presuppose three negatives made through suitable color-filters and an exact registering arrangement in the printing-frame.

I think that these two much-talked-of color processes will be found to have some features in common with what I have described; but, if I am mistaken, I offer these ideas as suggestions to experimenters in color-photography, having no ambition myself to work them out and sell them to a syndicate.—*Brit. Journ. of Photography.*

Studies by Falk. In response to the growing demand for studies suggesting variety in the lighting, posing, and treatment of the sitter, we have reprinted Series I. and II. of the reproductions from Mr. B. J. Falk's recent work. Price, $1 per set of forty-eight pictures.

A BAS-RELIEF PROCESS.

BY GEORGE G. ROCKWOOD.

As reported in our last issue, one of the most instructive features of the Pennsylvania Convention was the address on "Lighting and Posing," given by Mr. George G. Rockwood of our city. Mr. Rockwood went to Harrisburg, at the special invitation of the Executive Committee of the convention, to give the fraternity the benefit of his extended experience under the skylight. His work, however, did not end with the address referred to; rather, it only began there. He gave several informal talks on matters useful to the craft, and his ready answers to questions raised in discussion were warmly appreciated. One afternoon he conducted a practical school of photography under the skylight of a Harrisburg photographer, demonstrating to the hundred or more photographers present his methods of work. Of the usefulness of this demonstration we have heard from many who were present and received these ideas, which, as one of them says in a recent letter, "will change the whole procedure hitherto followed in our studio."

At another of the meetings Mr. Rockwood described and practically illustrated the method employed in his establishment for making portraits in bas-relief. This method, he declares, in no way conflicts with the claims made in the several processes patented for the production of relief portraits. At our request, with the characteristic response, "what you desire for the fraternity is law to me," he has given us the method described at Harrisburg, which many of the craft have already put to successful use. He says:

"A prerequisite for making bas-relief portraits is a hinged double frame as shown in Fig. 1. This, which may be called a modelling frame, is all the 'plant' essential to the process, and is an inexpensive affair (W. P. Buchanan, of Philadelphia, stocks them). The opening for the smaller size picture should be the size of a trimmed cabinet print; for an 8 x 10 print the opening should be 7 x 9. Having the frame we proceed as follows:

FIG. 1.

"1. Make a brilliant platinum print, preferably from a profile negative lighted *a la* Rembrandt. Now, on a sheet of very transparent paper, such as the paraffin 'preservers' used to protect cabinet pictures, make a careful tracing of the outline and principal features of the print with a *soft* pencil.

"2. Mount the platinum print on thick white blotting-paper with Higgins's mountant (this seems to be a mixture of glue and starch, and is admirable for the purpose set forth.) Smooth the print down gently into contact, with a roller if you have one, and then lay it aside under pressure until it is required—a few minutes later. The dampness thus permeates the absorbent base and print, giving both the plasticity required for the next operation.

"3. Trim a piece of cardboard to the size of the outside of the modelling frame. Place the tracing, face down, carefully upon this cardboard, and, with the handle of a toothbrush or the thumb-nail, make a 'set-off' from the tracing on the cardboard. If the 'set-off' or transferred outline is weak, strengthen it with a few strokes of the pencil.

"4. Insert the sharp point of a pair of scissors just inside the outline on the card and very carefully cut out the design close to the pencil lines. The more accurately this is done the better will be the final results (see Fig. 2).

FIG. 2.

"5. Having made a good 'cut-out,' place it on the face of the mounted print, which is now in proper condition for use, and carefully register the "cut-out' to the outlines of the subject on the print. If the print has expanded, cut the card away, preferably at the back of the head of the subject, until the 'cut-out' and outlines exactly register. Now place both mounted print and cardboard 'cut-out' in the modelling frame (Fig. 1) and securely fasten the frame by the clasps at the ends.

"6. With the handle of a toothbrush, or any similar smoothly blunt burnishing tool, begin to rub and press the print from the back, following the outlines of the 'cut-out' and working up the relief desired with care. The dampened print, being quite pliable, responds to every touch. This part of the work is, of course, done with the right hand, the left hand holding the frame to the table and the thumb following the working of the burnishing tool to keep the edge of the 'cut-out' close down to the print, as the dampness of the latter will cause the card to cockle and spring up, thus injuring the sharpness of the outline. When the outlines have been raised to the degree of relief desired, the inside features may be similarly and more freely treated. These may be relieved to about a quarter of an inch. A little experience will enable the photographer to easily and accurately accentuate the light draperies and hold back unimportant details. The relief so gained will remain, and, owing to the paste used, will stiffen and prevent any crushing of the picture unless severely handled. Suitable matts or cardboards, thick and of pliable material, may be had at the various supply houses at a cost of about $3 per dozen or less.

"The manipulations are simpler in practice than in description. I have entered into details so that the readers of the MAGAZINE may fully understand their working. A fair price to charge for relief portraits, cabinet size, would be $2 each, this price not including the making of the negative. A dozen prints might be made for $18, or one-half dozen for $10."

An outcome of the growing popularity of kinetoscopic photography is the establishment in London of kinetoscopic studios, where "animated photographs" are developed, printed, and colored to order. Kinetoscopic films and other requisites may also be obtained at these studios.

CONCERNING THE REPRESENTATION OF MOTION IN PHOTOGRAPHY.

BY JOHN BARTLETT.

In the delineation of the forms of nature, the human eye, guided by the most delicate touch, cannot approach the accuracy of the pencil of light, and photography has led us, directly or indirectly, to a perception of many of nature's latent beauties and many of her appearances which the unassisted vision might not recognize as beauties but for the camera's searching glance; yet from the tribunal of art judgment must often be pronounced against photography, and the book of the law is the limitation of our vision.

Upon this physiological peculiarity of the eye, not to see nature as she actually is—this optical imperfection, if we venture to call it—as compared with the lens of glass, depends much of our æsthetic pleasure.

It has been shown that in the rendering of light and shade there is a difference between the photograph and the painting, in which the method of the painter is to be justified rather than the photographer, although the painter takes greater liberties, so to say, with nature.

How often do we hear it said: "A photograph cannot lie;" but, like Macbeth's witches, it sometimes "lies like truth."

A representation of nature, to be true artistically, must be true in relative values of light and shade, as well as true in drawing, but in relative tone the photograph is often very wrong.

The variety of shades of color in objects and the effects produced by reflection and interpenetration of colors are heightened by persistence of vision which would be counted a defect in photographic practice, creating havoc with the impression on the sensitive plate.

[1] Read before the Photographic Society of Philadelphia, March 10, 1897.

It has been clearly demonstrated that the image impressed upon the retina remains there an appreciable space of time. It is not instantaneously formed and then completely obliterated, but during its transit allows the superposition of other impressions following quickly, so that a sort of composite image is formed. It is this peculiarity which enables us to enjoy the vitascope and other optical wonders.

To compel the painter to represent arrested motion—an actual momentary attitude—because he has to do with a single moment of time in his representation would be about as wise as to force him to confine himself to the use of those colors only which do not harmoniously modify each other when in juxtaposition, though science proves the isolated existence of the three primary colors in the spectrum in their integrity.

Objects, though passing continuously through an unbroken series, seem to the eye to have no breaks in the succession, hence the idea of motion; but instantaneous photography, by isolating any special movement in the series, really destroys the whole idea or conception of motion. Hence, art never does and never has painted animals or men in the attitudes Muybridge and the rest have shown by photography to be the actual, true positions.

The few instances in the history of art of examples apparently conformable to these demonstrations only prove that sculptors were not entirely ignorant of some of the real attitudes of the horse in motion, but were conscious that art is governed by visual laws which demand a different treatment, and that taste tolerates conventionalities rather than radical representations.

Lessing, the great German critic, in his essay entitled "The Laocoön; or, The Limits of Painting and Poetry," tells us:

"All appearances of nature which in their actual state are but of an instant's duration—which can be what they are but for a moment—all such appearances, be they pleasing or be they horrible, receive through the prolonged existence which art gives them a character so contrary to nature that at every repeated view we take of them the impression becomes weaker and weaker, till at last we turn from the contemplation in weariness and disgust.

"La Mettrie, who had himself painted and engraved as Democritus, the laughing philosopher, laughs only at the first time we look at him. Look at him often and the philospher is converted into a buffoon, and his laugh into a grimace."

We all feel how disagreeable an unmeaning laugh is in society, and in a portrait unconnected with story or incident it becomes unmeaning or worse, especially when the face is made to look at us.

In the wonderful group of "The Laocoön," the father and his sons are being crushed to death by huge serpents, but the sculptor does not seek to represent in the countenance of the sufferers the distortion which would actually accompany the physical and mental anguish, but the spirit of a great, self-collected soul is portrayed. The beholder is rather led to the contemplation of the extreme expected, than to actually see it, with that appearance with which we do not associate the idea of transitoriness so inseparably as to be displeased by its continuation in art. In other words, that which is beautiful in a work of art is beautiful, not to the vision as a single isolated phase of a continuous action made forever unchangeable, but as it is suggestive of succeeding phases, stimulating the imagination to create for itself something which is not actually presented to the eyes, but effected through their means. The mind thus anticipates, carries itself beyond, what could have been actually represented at the precise moment the scene depicts, and its delight is thereby increased.

In scorn of nature art gives lifeless life.

It is not pretended that photography aspires to enter the province of imaginative art, but its inability does not debar it altogether from producing pictures which may stimulate the mind to create something for itself which is not actually before the eyes in the theme represented. That is, it may in a measure be suggestive, and bear strong marks of the individuality of its author—of the permanent personality of the artist—and of the more or less accidental impression produced upon him by the sight of the object rendered.

One of the methods of rendering a photographic picture suggestive is dependent upon the manner in which the idea of motion is conveyed—in which instantaneity has no part or lot. By its scrupulous adherence to reality it takes away the very appearance of reality, *motion, life, action;* because it represents the object, as it were, petrified in the transient state—fixed constantly in a position which could not be preserved for more than a single moment without pain.

How insupportable do those statues of heroes become as we behold them upon their solitary pedestals with arms extended, forever holding that uplifted sword. We look for some indication of what has immediately gone before, and also something of what is about to follow. It is only thus that a figure in motion can have full truth and power of expression. The artist, painter, or photographer must ignore in some measure the extremely narrow limits of the single attitude.

This lack of the impression of a continuity of movement is particularly felt

when viewing some of our statues of military heroes.

In a photograph of a group by Paul Baudry, intended for the decoration of the foyer of the Paris Opera House, notwithstanding the violent simulation of motion in outstretched legs and arms, there is conveyed only the impression of an unpleasant mobility. It is a representation of purely arrested motion; there is no coordination to a general movement, which the mind itself should supply. All the movements do not lead to the idea of one impression.

But let us place, for instance, the same single figure of a military hero with uplifted sword and his steed with elevated legs, in fact, in the precise sculptured attitude, in a painting, marching at the head of a victorious host with streaming banners, and the mind has something to turn to for relief to refer the attitude of violent motion, and the impression is strong and full of enjoyment.

The greatest painters have devoted their attention to this imitation of motion in their paintings. Rubens is remarkable for the wonderful expression of action he gives to his figures. Fuseli describes the elements of his pictures as "Swept along in a gulf of colors, as herbage, trees, and shrubs are whirled, tossed, and absorbed by an inundation." There is a picture of his representing a rustic wedding, filled with figures dancing, romping, and rolling on the ground; a wonderful display of varied attitudes, which creates in the beholder the idea of motion in a masterly manner. Indeed it might be said that the greatness of a painter can be determined by a study of his method of dealing with motion.

Constantine, in his work on the *Italian Painters*, has remarked that "the rapidity and suddenness of movement on the part of the mother of the demoniac boy in Raphael's picture of the 'Transfiguration' is such that the draperies have not had time to follow the impulse of the body. She alone has turned. Her girdle, left behind by her movement, seems to be placed awry, but we soon perceive that if she were to return to her former attitude it would be in its proper place. Raphael always leaves around his figures the space necessary to indicate the position in which they were at the moment immediately preceding that chosen for the painting, and is very careful not to fill up the void which they have just left behind them."

We see here how Raphael succeeded in giving to his figures that spontaneity of movement and true and serious grace which leave an impression so powerful upon intelligent and sensitive minds. Instances may likewise be selected from the works of Titian, the great Venetian painter, in which the expression of motion and animation is portrayed in a wonderful manner. In a small picture representing Christ appearing to Mary in the garden, the Magdalene seems fairly to run forward to meet the Lord, her streaming hair and drapery denoting the utmost rapidity of her action, while the hand stretched forth to touch Him is suddenly checked at His words, "Touch me not."

Michael Angelo is also rich in illustration of the power of conveying the idea of motion by suggestion, though he, sometimes, transcends the limits of the ideal in his excessive predilection for representing violent attitudes.

Charles Leslie has called attention to a peculiar conception of Angelo's "Judith and Holofernes." The headless man turns on his couch, and the rustling of the curtains occasioned by the upraised and moving arm causes Judith, who has just escaped, to look back. Thus the terror of the scene is indescribably heightened by an attention to the fact of the continuation of muscular motion, for a short instant, after decapitation.

Even among the best of the minor painters we often find the previous position of the figures indicated by the manner in which the apparel is disposed upon the ground or upon some near object.

A picture can no more place itself in antagonism to the physiological nature of the eye than music to the ear—and photographers should imitate the painters, if desirous of conveying the idea of motion, and not seek for action in transient attitude. A transient attitude may indeed be depicted but not isolated. There should always be other objects associated to carry the mind from one phase to the other so that it weary not of the perpetual sameness.

Surely it is not impossible for the photographer to imitate the painter, and leave around his figures the space necessary to indicate the position in which they were at the moment immediately preceding that chosen for representation, instead of scrupulously filling up the void which they have left behind them, for fear of an hiatus. We might thus give an intensity and energy of action to our picture which an isolated figure would find very difficult, if not impossible, to support.

Our figures should be surrounded by that which is needed to explain them and to show their connection with the rest of the work.

We have seen many a photographic picture which suggested to our thoughts the beautiful lines of Keats:

> Fair youth! beneath the trees, thou canst not leave
> Thy song, nor ever can those trees be bare;
> Bold lover, never, never canst thou kiss,
> Though winning near the goal; yet do not grieve;
> She cannot fade, though thou hast not thy bliss,
> Forever wilt thou love, and she be fair.

Although the exercise of the imagination, the creative power of the poet and painter, is far beyond the highest aspiration of the photographer, yet the quality of suggestiveness may be found in a simple camera picture as the chief element of its attractiveness.

Photography, despite its intense realism, may tell a story in the drama of everyday life in such a way as to excite interest or sympathy. By proper selection and combination of actual facts, perhaps dull and prosaic enough, a mere photograph may give the mind material for the construction of a picture rich in thought and full of feeling.

When photography thus brings together objects stimulating the association of ideas and creating a mental picture, thereby producing sensations of surprise, novelty, and unexpectedness, it surely deserves to be admitted to the rank of a work of art.

Nothing in the whole range of art is perhaps so difficult to depict in their true relation as the sea and sky.

The harmony is so exquisite in the whole scale, from high to low, that the introduction of the slightest discordant element jars upon the feelings of those whose souls are tuned to its concord.

The sea, infinite in variety of changing forms and hues, unwearied in its manifestations of grace, unconquerable in power and majesty, eludes the subtle touch of the most skilful painter to catch one phase of its lovely inconstancy, any one form of its fury. Even in its gentler moods, when, with soft murmurings, it sports with the beached margin of the shore, so mockingly transient is the exquisite modelling of the little waves that the eye catches only furtive glances of the beauty.

And so of the sky. The constant play of an exhaustless energy evolves from its bosom form after form of loveliness, fleecy masses of wind-fretted clouds, soft filaments of fine-spun vapor interpenetrated with changing lights, multitudes of dense white shapes, wandering in thick flocks,

> Shepherded by the slow, unwilling wind.

We think it may safely be said that photography has taught us more of the sea's phases and the sky's moods than centuries of observation.

We know full well the limitations of photography, and think we have honestly given utterance to its shortcomings in art, and we feel, too, the pre-eminence of painting; but let us candidly acknowledge the great service it has rendered to art by the treasuring up of those transient shapes of beauty which the pencil despairs of recording.

The old masters, even the Venetian painters, who lived upon the very bosom of the ocean, give us only now and then crude little patches of green or blue, evidently intended for sea, because they place little ships upon the patches, as much as to say, "this is the sea." It was left to modern art, almost to the present century, to study the volume of the moving waters for its own beauty, and not as a mere conventional background for human motives. Turner and Stanfield come very near nature; they give the impression of mass and volubility, of transparency and mobility. They show us the lapping and curling of the waves, with their lace-like traceries, the intermingling of light and shade broken up by the little surges and ripples; but even Turner fails to catch that perfect freedom in the flow, that rollick at the top of the wave when the spray seems hardly to know which to obey, the bidding of the wind or the impatient rush of the main wave trying to gain the shore. To judge from the average painting of sea and sky, what a vague idea people have of what a cloud or wave is like. A blot of white upon a scutcheon of uniform blue is passed off as the work of

> Heaven's profoundest azure,

a rolling, twisting convolution of green, with dabs and dashes of white, passes current for the flow of old Ocean. These conventional ideas so blind us to the truth of clouds and waves, that when an artist who looks at nature with unfilmed eyes puts upon the canvas his perceptions his picture is looked at askance and doubtingly.

And so when the camera gives us the sea and the sky with nature's own image and superscription, we fail to render tribute to whom tribute is due. Let us rather say with Wordsworth:

> Praised be the Art whose subtle power could stay
> Yon cloud, and fix it in that glorious shape;
> Nor would permit the thin smoke to escape,
> Nor those bright sunbeams to forsake the day;
> Which stopped that band of travellers on their way,
> Ere they were lost within the shady wood.
> And showed the bark upon the glossy flood
> Forever anchored in her sheltering bay.
>
> Soul-soothing Art! which morning, noon-tide, even,
> Do serve with all their changeful pageantry;
> Thou, with ambition modest, yet sublime,
> Here for the sight of mortal man hast given
> To one brief moment caught from fleeting time
> The appropriate calm of blest Eternity.

A TRADE PRINTING-HOUSE.

BY GEORGE B. SPERRY.

SOME time since this MAGAZINE published a series of questions to the craft, one of which was: "In what way do you think general business could be conducted more economically?" One of the answers was as follows: "By co-operation. What a senseless waste is apparent in the condition of affairs in our larger cities, one hundred galleries, one hundred printing-rooms where ten would be ample." I would go further and say that one printing plant could not only supply all the galleries of its own city, but those of the adjacent small towns also. Is the plan feasible?

No! is our first thought. What are the objections? We want our prints finished on our own premises, so that we can overlook the work. We do not want our patrons to know that our prints are finished by the same workmen who print for our "cheap John" neighbor. Another says: "I put individuality into my prints, as well as into my negatives, and I do not like the idea of having them go through the same hopper with good, bad, and indifferent work; besides no one can print to suit me who is not under my personal supervision, and so on." Are these objections insurmountable? By no means. It is the mere thought of such an innovation that arouses our prejudices. It is not so long ago that photographers prepared not only their own plates and paper, but even albumenized their own paper. No one can deny the advantage of buying plates and paper ready for use. In the early days of emulsion plates many of the galleries coated their own supply. They soon learned, however, that the factories could furnish better and more uniform plates for less money than it cost them to prepare their own. Whatever our opinion of emulsion papers as a substitute for albumen, we must admit that their use is a saving for moderate consumers. If, in the preparation of plates and paper the best results are reached in factories where special facilities are provided, might we not expect, under similar conditions, the best results in the subsequent operations of the toning and finishing of the prints? Suppose one hundred galleries produce ten thousand prints per day, one hundred printing-rooms, work-rooms, washing-tanks, etc., are to be fitted with the necessary apparatus and stock. Now suppose a single plant equipped for ten thousand prints per day, what a saving in equipment alone! There would be a large saving in rent, a larger saving in labor, and the avoidance of much waste. No small plant can successfully work all of the printing processes. In such a plant as the above, each department could have its own expert workmen, thereby insuring the best results obtainable at all times, and enabling patrons to obtain any style of print wanted at a slight advance above the minimum cost of production. Expert workmen would not then spend their time watching a dozen frames, more or less, because negatives were slack; spend their time washing prints, mounting, spotting, and such work as can be done by cheaper help. Would not the average proprietor be glad to send his negatives to such an establishment, and be saved the loss and annoyance of spoiled prints and sloppy workmanship, to say nothing of spoiled tempers? Such a plant, if well managed, could furnish prints at less than the present average cost and still leave a handsome margin for profit. I do not think it can be done by co-operation. It must pass into the hands of the merchant, as has the manufacture of plates and paper.

This is a subject well worth agitation. Let us hear from the Philadelphia gentleman whose remarks I quoted at the opening of this article.

"PHOTOGRAVURE BOARD."

THERE has just been introduced by the National Photo Paper and Chemical Co., of Springfield, Mass., a novel kind of print-out paper, called photogravure board, which we predict will speedily become a popular specialty for high-class professional and amateur work.

It is hardly correct to designate photogravure board as a print-out paper; it is really a thin cardboard, coated on one side

with a print-out emulsion, for the production of matt-surface pictures in various tones closely resembling photogravures. There have been several attempts in years past to perfect sensitized cardboards, but photogravure board differs essentially from these imperfect attempts, and is the result of an idea worked out by Mr. J. B. Mumford, the enterprising manager of the N. P. P. & C. Co. The principal features of the new product are that it will give prints of almost any desirable tone with white margins of any chosen proportions, and that the prints do not require mounting. We have seen a number of prints made on the board and have shown them to many photographers, all of whom were warm in their admiration of them. In an early number of the MAGAZINE we will endeavor to present specimen pictures of the new method.

When made to order photogravure board is obtainable in various thicknesses, the standard variety being about $\frac{1}{40}$ of an inch thick. The largest sheets run about 20 x 24 inches. The manipulation of the paper is as simple as that required in other print-out papers. After the matt has been prepared to give the desired width of margin to the print, the paper is exposed under the negative until the high-lights are well-tinted. If the shadows bronze this will disappear when the prints are finished. Washing is accomplished as usual, but should be thorough and, if possible, in running water, and the prints should be well separated. When the water shows no trace of milkiness the prints are ready to tone. For any of the usual tones obtained with gold the following bath is advised:

Water (distilled)	16 ounces.
National Gold	1 grain.

Neutralize with carbonate of soda or borax.

Rinse the pictures after toning and fix for fifteen minutes in a bath of

Hypo-soda	1 ounce.
Water	20 ounces.

For the popular olive-black tones the prints are only allowed to remain in the gold bath until the high-lights are just cleared. They are then toned to the desired depth in

Water	16 ounces.
National Platinite Solution .	1 drachm.

For heavy black tones the prints should be left in the gold bath until they appear somewhat blue in tone and then transferred to the platinite bath. From this latter, when toned, the prints are immersed in a neutralizing and checking solution for ten minutes:

Carbonate of Potassium (Saturated Solution) . . .	1 drachm.
Water	16 ounces.

And then fixed in the hypo bath already given, remaining therein fully fifteen minutes. This bath must be always distinctly alkaline, and the prints should be kept moving.

For sepia, orange-red, or warm chestnut-brown tones the following procedure is advised: After putting the prints through two wash-waters, allow them to remain for ten minutes in the carbonate of potassium bath mentioned, then wash twice in running water, tone in the gold bath until the half-tones are cleared, and fix for ten minutes in the hypo-soda bath.

The final washing of these prints can best be accomplished with two trays, a roller squeegee, and a piece of plate glass. Take the prints one by one, lay them on the glass, and with the squeegee remove all the water from them. Then throw them into the tray containing fresh water. By repeating this operation six or eight times all injurious salts will be thoroughly removed from the prints.

It will doubtless be thought by some that, even with this manipulation, the heavy stock of the board will retain traces of the fixing salt. This, however, need not be as supposed. We are informed

that under the sensitive coating of the board there is an absolutely insoluble color which allows nothing to reach the picture image from the back side of the board. In addition to this the prints may be alumed by immersing them, immediately after fixing and two washings in running water, in a solution of

Alum	1 ounce.
Water	16 ounces.

In this bath prints should remain ten minutes, and afterward be washed as already described. In order that photographers may assure themselves whether all the hypo is eliminated or not, the National P. P. & C. Co. has placed on the market a very convenient hypo indicating outfit, consisting of a bottle of indicator and two test tubes. By careful tests with this apparatus and prints made for experiment we failed to discover any trace of hypo in the last wash-water used.

To thoroughly and quickly dry photogravure-board prints, a good method is to allow them to remain between blotters, changing the latter from time to time until the prints are almost dry, when a little heat will completely dry out the moisture. For this purpose the National C. P. blotters will be found of excellent service.

If the prints show any inclination to curl after finishing, the trimming away of an eighth of an inch all around will completely remedy the trouble.

We are informed that portraits made on photogravure board readily find favor when introduced to the patrons of the gallery. A firm in Providence, R. I., now using the board for their best work, obtains $12 per dozen for cabinet pictures with 1-inch margin all around. Unless we are mistaken photogravure board will also be a favorite among amateurs, because of its convenience and the ease with which effectively finished pictures may be produced upon it. For exhibition purposes, portfolio portraits, book illustrations and the like, the board suggests itself as altogether admirable. We recommend our readers to give the new specialty an early trial.

EDITOR'S TABLE

We have received from Mr. E. S. Wilson, an amateur photographer, of Corry, Pa., several humorous group and genre pictures taken in and about his home. They are printed on Velox paper and show considerable skill. In one of them, a portrait of a Swede, the lighting has been cleverly managed and it is effective. It was taken at an ordinary window.

A special feature of the Ohio Convention will be an exhibition of negatives, and prints made from them, produced by the leading photographers of the country. This will prove a profitable and educational exhibit; it should be thoroughly examined by all who attend the convention. We are also requested to state that competitors at the convention exhibition cannot compete in more than one portrait class.

The Lovell Dry-plate Co., Portland, Maine, has recently completed improvements in its plant and claims that for rapidity, brilliancy, and certainty of manipulation, combined with excellence of printing quality, the new *Climax* plate has no superior. We know many capable photographers who have sought the best plates in the market and who fully indorse the claims made for the *Climax*.

"Hurrah for McKinley" is the topical legend attached to an unusually good combination picture sent by Mr. H. Immke, Princeton, Ill. It shows, within a space 3 inches wide by 8 inches long, seven different poses of a bright boy, who thus forms a procession, comprising a military band on march, headed by a leader carrying the national flag. It is sure to draw attention and business.

BEWARE OF FRAUDS.—Mr. GEORGE TAYLOR, Sr., Provo City, Utah, asks us to warn the fraternity against FRED. G. MILLANDER, Brooklyn, N. Y., who advertises himself as a finisher and colorist for the photographic trade. In October, 1895, Mr. TAYLOR sent MILLANDER five dollars and two photographs to be colored, but up to date has received nothing in return but empty promises and vain excuses. The United States postal authorities have inquired into the matter, but do not seem to have brought it to any satisfactory conclusion. We would again advise our readers not to send money or pictures to unknown firms at a distance, but to patronize those who advertise in reputable journals or are known to possess integrity and good business methods. A firm of this kind, which we can recommend for enlargements, frames, and finishing, is THE INTERNATIONAL CO., 224 Washington Street, Chicago. These gentlemen are reliable and offer many attractive inducements to their patrons A postal to them will secure their latest price-lists.

AT the last meeting of the Photographical Section of the American Institute, March 2d, Mr. C. P. GOERZ showed his new 4 x 5 Anschutz Focal Plane Hand Camera, and a full selection of the well-known GOERZ anastigmats for plates from 4 x 5 to 20 x 36 inches. The members present showed great interest in the exhibition, and the new camera evoked covetous desires from all who saw it.

THE little book by E. LONG on *Pastel Portraits on Solar Enlargements* has been largely in demand of late, owing to the increasing attention being given to this profitable branch of photography as a business. It is the only book on the subject prepared for the photographer, concise, to the point, and complete, with a chart of all the colors used. Price, $1, complete, postfree, from the office of this MAGAZINE.

THE new interest in artistic work fostered by the many conventions now in progress has burdened our correspondence with innumerable letters from photographers eager to know "where art begins." It is impossible for us to answer these letters personally, and we refer all in need of art instruction to *Quarter Century in Photography* and *Photographics*, where the art education of the photographer has been fully treated. Those who will devote themselves to what is said about art applications in these two books may be trusted to find their way further for themselves. We have a special book offer (including these two books) which will be sent to anyone applying for it.

THE CHEVALETTE is a new cabinet photograph frame just introduced by Mr. H. A. HYATT, Eighth and Locust Streets, St. Louis. It combines both frame and mount in one, is handsomely embossed and bevelled, and may be had in several colors. The price is an inducement, and we are not surprised at the popularity of the frame.

THE BOSTON CARD CUTTER is one of the best things of its class on the market, and will cut paper, card, cloth, or thin metal with equal facility. Photographers in the middle Western States can obtain the cutter from GEO. W. LEAS, Peru, Ind.

"THE NEW DRESS," which represents Mr. STEIN'S grand studio in our present number, is engraved from a photograph made on a Cramer plate. In an early number we hope to offer our readers a fine specimen of child portraiture "made on a Cramer plate" by Mr. J. C. STRAUSS, of St. Louis.

THE SOUVENIR NUMBER of the *Photographic Recorder*, published by Messrs. ZIMMERMAN BROS., St. Paul, Minn., is a thing of beauty, full of good pictures by well-known Northwestern photographers. It must be seen to be appreciated. We are glad to observe that most of the best work shown in the numerous engravings comes from studios where this MAGAZINE is a welcome visitor.

The Paper World of last December contained an illustrated notice of the NATIONAL PHOTO-PAPER & CHEMICAL CO, of Springfield, Mass. This young and enterprising company is the first to use an American-made paper in the production of sensitized print-out papers. Controlling, in this way, the entire making of their papers from the rag to the finished product, they are able to assure their patrons of a reliable and uniform article.

A FEW days ago we were shown a bundle of Carbutt's films, or negatives made on these films, by a photographer whose journeyings had included many South American countries. The negatives were of remarkable quality and fine printing color, wholly free from fog, though some of the films were two years old when used. Particulars of these cut films can be had from Mr. JOHN CARBUTT, Wayne Junction, Philadelphia.

"ONE never hears of the Globe Enameller nowadays," writes an old subscriber. He adds: "I know of nothing better, do you?" We do not, and therein is the reason why so little *comparatively* is heard of this famous burnisher. It is recognized as the standard machine for its purpose, is on sale in all supply-houses, and is so well-known and appreciated that to think of a burnisher is to think of the *Globe Enameller*. It is manufactured by JAMES H. SMITH & CO., 311 Wabash Avenue, Chicago, a firm known over all the world as the makers of many standard specialties for photographers.

HAMMER PLATES.—Judging from the number of prize-winners at the Pennsylvania Convention who used Hammer plates in making their exhibits, this popular plate may be fairly said to have captured the convention. Here is the list: Mr. R. W. PHILLIPS (Philadelphia), winner of the gold medal in Class A. J. B. SCHRIEVER (Emporium), whose "Madonna" was voted to be the best picture exhibited. J. WILL KELLMER (Hazleton), for part of the display which won the bronze medal in Class A. CHARLES FRITSCH (Pittston), winner of the highest award in Class B. J. H. KEMP (Scranton), who secured the diploma and special award in Class E. SCHRIEBER & SON and JAMES L. DILLON, prize-winners in Class G. CHARLES L. GRIFFIN, who secured the second award in the Grand Prize Class, and J. W. ROSHON (Harrisburg), who stood third in the Grand Prize Class. This is a fine showing for the HAMMER DRY PLATE CO., and we congratulate them on their success.

A CORRECTION.—MR. R. D. GRAY points out an error in the condensation of pages 87–88 of his article on "The Alteration of Perspectives by Reproduction," originally printed in the January, 1896, issue of the MAGAZINE. The method given in the article was a valuable one, but an explanation of the error in the condensation would be difficult without the illustrations given in the MAGAZINE. We, therefore, refer *Mosaics* readers to the January, 1896, issue of the MAGAZINE, and will gladly send a copy of it to those who ask it for this purpose as long as our supply lasts.

OUR stock of *Mosaics*, 1897, with its collection of the prize pictures of the conventions, has dwindled down to a few dozen copies. Those who desire to secure a copy should send their order without delay. First come, first served. Price 50 cents, postfree, in paper covers. Library edition, $1, postage paid.

MR. C. A. BLODGETT, Hicksville, Ohio, sends us a copy of the little illustrated booklet he uses to persuade business. It is well written and offers many acceptable hints to sitters.

THE INTERNATIONAL CO., 224 Washington St., Chicago, has recently introduced some pleasing novelties in portrait frames. These are embodied in their new catalogue, which they will be pleased to send to any address on application.

THE April *Chemical List*, published by Messrs. CHARLES COOPER & CO., 194 Worth Street, New York, is ready and may be had on request. It shows the current prices, with decrease or increase marked where former prices have changed.

THE NEW CLIMAX PLATE (E. & H. T. ANTHONY & CO., 591 Broadway, N. Y., trade agents) is helping to improve the work of many galleries. A few days ago we were shown a selection of the work of the PHILLIPS STUDIO, Alexandria, Va., made on Climax plates. The pictures showed much brilliancy combined with delicacy of gradation in the lights and shadows. The New Climax is a wonderful plate at its price.

THE GILSON ADJUSTABLE ALBUM (F. H. GILSON & CO., Boston) is a new and convenient album, which has many advantageous features over those already on the market. By an ingenious device (patented) it can be made to perfectly preserve any sized collection of pictures from a single print to fifty, the leaves being readily interchangeable at will and the covers adjustable. The surplus back slides in on the cover when not needed and the book opens perfectly flat. The advantages of such an album for professional or amateur photographers are obvious. It may be had in various sizes for pictures from 4 x 5 to 11 x 14 inches, and in several styles of binding. All supply houses stock these albums, and the prices are extremely reasonable.

THE INDIANA CONVENTION, held at Indianapolis March 2d to 5th inclusive, was a very successful gathering, the number of exhibits being much in excess of those of any previous convention. We had hoped to present in this issue a report of the proceedings, but, up to our going to press, no communication has been received from the Secretary of the Association.

PRIZE LIST OF THE 1897 NATIONAL CONVENTION.—*Grand Portrait Prize.* The grand portrait prize will be a life-membership in the P. A. of A., handsomely engrossed and properly signed by the officers of the Association.

Grand Genre Prize. On motion, $75 was laid aside for the purchase of a grand genre prize.

Genre Class. Three pictures, thirteen inches or larger, on any matt-surface paper, subject to be chosen by the photographer, the title to be appropriately inscribed on each picture. To be framed at the discretion of the exhibitor, with or without glass. One gold medal.

Class A. Twelve pictures. Three or more to be sixteen inches or larger. 1st, one gold medal; 2d, one silver medal; 3d, one bronze medal; and one diploma.

Class B. Four pictures, thirteen inches or larger. 1st, one silver medal; 2d, one bronze medal; 3d, one diploma.

Class C. Three combination pictures, any size. 1st, one silver medal; 2d, one bronze medal; 3d, one diploma.

Class D. A rating competition. Twelve cabinets only. These must be framed in one frame. 1st prize, a silver medal; a bronze medal to all receiving twenty-one points or more.

Class E. Landscapes, with or without figures. Three pictures, thirteen inches or larger. 1st, one silver medal; 2d, one bronze medal; 3d, one diploma.

Class F. Interiors. Three pictures, ten inches or larger. 1st, one silver medal; 2d, one bronze medal.

Class G. Commercial photography. Six pictures. Size to be left to the discretion of the photographer. 1st, one silver medal; 2d, one bronze medal; 3d, one diploma.

Class H. Best instantaneous pictures. Three pictures, six inches or longer, of animals or objects in motion. 1st, one silver medal; 2d, one bronze medal.

Class I. For the most tastefully arranged exhibit. One diploma.

Class K. Foreign exhibit. For the best collection of photographs, any size, framed or unframed, to be *delivered to the Association free of charge.* 1st, one gold medal; 2d, one silver medal; 3d, one bronze medal; 4th, one diploma.

Markings.

Genre Class. First, illustrative; second, originality; third, photographic results.

All portrait classes, *A*, *B*, and *D*, first, posing; second, lighting; third, chemical effect.

Class C. First, originality; second, composition; third, general effect.

Class E. First, pictorial effect; second, chemical effect.

Classes F, G, and *H.* First, chemical effect; second, general effect.

Class K. First, posing; second, lighting; third, chemical effect.

A. L. BOWERSOX, Secretary,
Dayton, Ohio.

Rules and Regulations.

1. All competitors must be members of the Association.

2. Exhibitors cannot compete in more than one of the following classes: A, B, or D. Photographs for Association prizes must be made from negatives taken since the last convention.

3. When one dimension of picture is given, it applies in all classes to the extreme length or breadth of the print, and not the mount.

4. Should any exhibitor or exhibitors use his or their influence in any way, directly or indirectly, with the judges during their term of office in favor of any exhibits, it shall be the duty of the judges to strike their exhibit or exhibits from the list. All exhibits must be framed, with or without glass. The committee suggests a one-inch oak frame.

5. Ten marks to be the highest given for any one point; consequently thirty points is the highest that can be given to any one picture.

6. All exhibits must be delivered in Jamestown, N. Y., in care of the P. A. of A. by July 10th.

7. Applications for space in the Art Department must be received before July 6th. No space will be allotted after that day. Application for space in this department must be made to W. G. THUSS, Second Vice-President, Nashville, Tenn.

8. All exhibits of pictures must be addressed to J. WILL KELLMER, First Vice-President, P. A. of A., Jamestown, N. Y., charges prepaid.

9. Exhibits for Dealers' and Manufacturers' Department to be shipped to A. L. BOWERSOX, Secretary, P. A. of A., Jamestown, N. Y., by July 12th, charges prepaid, and must be placed in position by 10 A.M., July 12th.

10. Have your box covers screwed instead of nailed. Mark your home address on under side of cover for return of pictures. Put screw-eyes and picture wire for hanging in box.

11. All boxes and packages will be accepted at any time previous to July 12th, so that photographers need not feel any uncertainty about the safety of their goods. Exhibits cannot be removed from the hall until after the close of the convention.

12. No manufacturer, dealer, or other representative shall do business on the convention floor unless they take floor space or desk-room.

13. All exhibits must be framed, having a card on the front giving name of exhibitor, class, city or town, county, and State.

14. All these rules and regulations will be strictly adhered to.

15. Employés, to gain admission on employés' fees, must present an official application (which can be secured from the Secretary), signed by a proprietor of a studio who is a member of the P. A. of A.

EXECUTIVE COMMITTEE P. A. of A., Jamestown, N. Y., February 9, 1897.

Further information will be given in our next number.—ED. W. P. M.

EAGLE SATIN ALBUMEN PAPER, imported by Mr. G. GENNERT, 24 East 13th Street, New York, seems to be enjoying a boom. Mr. GENNERT imforms us that the sales of this famous brand are now double the amount sold at this time last year, and he predicts that the processes of the near future will be albumen and carbon.

THE GOERZ SECTOR SHUTTER is a timely introduction by Mr. C. P. GOERZ, 52 Union Square New York. It combines many new and advantageous features not possessed by other shutters, of which we will give extended notice in our next issue. A circular of information can be had from Mr. GOERZ at he address given.

THE last one hundred copies of *Mosaics*, 1897, are fast being sold. When these are gone the book will be unobtainable. It will not be reprinted. Those desiring copies should send their orders without delay. The demand for *Mosaics* this year has been greater than for several years, and we have received hundreds of "good words" in appreciation of its usefulness. Paper covers, 50 cents postpaid. A few copies only of the cloth-bound edition, $1, postfree, to any address.

MESSRS. J. B. COLT & CO., 115 Nassau Street, New York, have just issued a new edition of Part II. of their catalogue of Projection Lanterns and Views. This list, which covers almost 150 pages, is illustrated with two specimens of color photography from negatives made by Mr. R. D. GRAY, and contains a full description of the natural color views obtainable for projection. Every lanternist should see this new catalogue.

THE daintiest calendar of the year is that put out by the ALBANY ENGRAVING CO., Albany, N. Y., whose engraving work is so largely shown in our pictures. The *piece de resistance* of the calendar is a three-color print of a lady of fashion, evidently a recent importation from Paris.

THE eighth annual exhibition of photographs, by members, will be opened at the BOSTON CAMERA CLUB, Bromfield Street, Boston, April 8th, and will remain open until April 25th.

THE HOLLINGER PORTRAITS, printed on platinotype paper and mounted on the new art Rembrandt mounts, advertised elsewhere in this issue, are being largely appreciated by photographers at home and abroad. During the past few weeks we have several times had to replenish our stock, and have shipped sets of the prints to prominent photographers in Europe. These portraits are printed direct from Mr. HOLLINGER's negatives and are characteristic examples of his individual style. The set of eight prints may be had, postage free to any address, for $1.50. A few negatives, made by Mr. HOLLINGER, have been placed at our disposal for those desiring them, and may be had postfree at $1.25 each.

PICTURES RECEIVED. Mr. ALFRED STEVENS, of the Boston Camera Club, sends a photograph of a Boston newsboy, technically good, but lacking in pictorial treatment.

Mr. LOUIS F. JANSEN, of Buffalo, N. Y., whose excellent figure studies have more than once illustrated our pages, sends three Easter pictures containing many good qualities.

The Photogram, 6 Farringdon Ave., E. C., London, has issued a Photographer's Daily Calendar for 1897, which is well worth the ten cents it costs for the practical information given on every page.

CLASSIFIED CATALOGUES.—A new business aid is being introduced by Mr. HOWARD CHALLEN, 150 Nassau St., New York. It consists of *Classified Catalogues* and circulars bound together in uniform sizes, for preservation and reference, with a convenient index. A circular of information may be had from Mr. CHALLEN on request.

SAN JOSE, CAL., now has a flourishing Camera Club, with almost a hundred members. A fine suite of rooms has been equipped for the use of members of the club, and meetings are held monthly. Mr. C. F. GOODSELL, Bank of San Jose Building, is the Corresponding Secretary.

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No. 485.

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WILSON'S PHOTOGRAPHIC MAGAZINE.

EDITED BY EDWARD L. WILSON.
JOHN A. TENNANT, Associate Editor.

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ON THE GROUND-GLASS.

MAY-DAYS are camera-days! All creation shouts the glad news, and every ground-glass in creation vibrates in gleeful anticipation of the grand *fiesta*. There is, alas! but one May-time in a year. See to it, fellow-focussers, that you lose not an iota of its glory. Out into the fields and highways, and gather into mind and plate-holder alike the manifold beauties which are unrolled with the coming of May.

The Ground-Glass confesses that, since its first focussing, it has known no experience so wholly delightful as a day outdoors with the camera in May. It is a time of rejuvenation, when the pendulum of life receives a fresh start, when every sense and feeling is quickened with a new vitality, and the heart of the photographer thrills with pleasure unspeakable.

But May-time is camera-time for all—for the skylight-worker as well as his more fortunate brother outdoors—and the studio camera has its May triumphs equally with the hand and stereoscopic cameras. Furbish the studio anew, therefore, from skylight to ground-floor entrance; make its walls and floors, its accessories and grounds, its display frames and announcements, reflect the gayer side of life, inviting the daintily apparelled maid and swain, the children in their exuberance of spring finery, and the old who would be young, to disport themselves on your ground-glass. Only a few days ago *The Ground-Glass* focussed upon the display of a city photographer animated by this spirit. His pictures were printed in carbon, of green and warm-brown tones; they were set out against a light silk ground, and intertwined were sprays of artificial flowers and greenings, appropriately chosen to enhance the effectiveness of the pictures. The display was most attractive, and furnishes a suggestion from which many may profit.

Another May-time suggestion was focussed in the charming reception-room of Mr. B. J. Falk's studio on West Twenty-fourth Street. It was a screen of pictures, matt-surface prints delicately colored, with sprays of flowers or foliage painted in water-colors upon the ample margins about the figure or pose. Each picture, or set of pictures, was framed in gilt, and they formed an *ensemble* which must surely invite business. Of course, not every studio possesses so skilful a colorist as the Falk gallery, but by some contrivance and the help of a local art student, many galleries could secure such a collection of pictures for exhibition and open up new business and better prices.

During one of the sunny mornings of April *The Ground-Glass* focussed upon a group of three well known photographers discussing the new movement in photography—the renaissance of portraiture. The discussion centred on the work and methods of Mr. Hollinger. The question was as to on what his success would depend: whether upon his art, or his capital, or on the largeness of the field of work he chose in locating in New York. The point of view shifted incessantly. There was frank appreciation and recognition of the art which Mr. Hollinger puts into his work, and of the remarkable individuality which he impresses upon it regardless of the variation of the subject. His audacity in the detail of price and the complete control he retains as to the size and appearance of the finished pictures were favorably noted, and they all agreed that his work has given a desirable stimulus to portraiture. But the final focussing brought out the fact that the success of his radical departure from the common groove must depend upon his field of possible patronage. This conclusion is interesting, because it recalls a fact often forgotten, viz., that the demand controls the supply, regulating its quality and price. If the photographer would focus upon this in choosing his location we should hear less of failures in photography.

The Ground-Glass invites the serious attention of the craft to the announcements and prize-list of the Photographers' Association of America, concerning the forthcoming convention at Celoron, July 12th to 17th, inclusive. Many novel and instructive features are added this year, based upon the experience of the 1896 convention. A separate building for the meetings of the convention has been arranged for. This will effectually remedy what was perhaps the greatest drawback of last year's convention—*i. e.*, the confusion caused by the too close proximity of the manufacturers' and dealers' departments to the section reserved for holding the business sessions of the Association. Two other good features are the reduction of the number of pictures required for competition in the various classes and the arrangement made to illuminate the art display by a system of electric lighting such as prevails in our modern art galleries. The prize-list was given at page 191 of our April number. The meeting of the executive committee is reported on another page of this issue, together with interesting news of other associations.

Last, but not least, of the new resolutions adopted at the executive meeting, *The Ground-Glass* focusses upon the provision made to furnish a full report of the proceedings of the convention to the photographic press free of charge. This is as it should be, and simply justice. The Association owes its existence to the photographic press, and but for the persistent advertising given to it in the journals would long ago have been abandoned. In former years, when *The Ground-Glass* lacked the scratches on its face which mutely testify to its endeavors to bring thoughtless Association organizers into right focus, special care was taken to see to the convenience of the press-men attending the conventions. Seats and tables near the speakers' platform were provided for their comfort in working. Let us go back to the old ways, remembering that the press represents the whole fraternity which the Association desires to embrace, and that those whose knowledge of the conventions must be had from the photographic journals outnumber those who attend the conventions in the proportion of a hundred to one. *The Ground-Glass* asks the officers of the State Associations to focus carefully the whole of this paragraph.

CRITICAL NOTES ON THE EXHIBITION OF THE SALON OF THE OHIO PHOTOGRAPHERS.

BY OTTO WALTER BECK.

WHEN, in the summer of 1895, the photographers of Ohio at their annual meeting in Columbus instituted a salon, chosen from the regular exhibition work, they gave their isolated and struggling art aspirants a basis. They separated in that movement the ideal of art in its purest sense from the art of commercial subordination.

With this movement arose the possibility of having the wonderfully developed mechanical and technical side of photography serve in the triumph of attaining to the level of the acknowledged fine arts. The earnest struggling photographer was made to see that if his endeavors were directed in the right channel his battle with the unaspiring, purely business photographer would cease; that a new era would arise in which the work of thought, of learning, of all that makes art possible, would secure for him the patronage of the intelligent, the cultured, the lovers and the appreciators of true art.

There are higher possibilities in photography than the profession as yet dares conceive. The apparatus that supplants the brush of the painter is capable of getting nearer to the master-portrait and the master-composition than anything thus far hinted at. It will not depend upon new apparatus, but purely upon the work of the brain to accomplish this. System in learning, convenience for study should replace the feverish desire of the photographer for obtaining formulæ for lighting and arrangement. The inner man must be made, through growth in the understanding that constitutes an art; his perceptions should be made keen through experiment, and he should be prepared to meet each new problem with new and fitting conception, resulting from the whole intellectual man—the artist.

The spirit prompting the institution of the salon made it possible for the photographer-artist to lay his plans for a long training in his craft with confidence, assured that with every new attainment will come deserved recognition. The study of theory as set forth in books, unaccompanied with practical and direct demonstration and modern application, will not secure that training. Only the formation of a habit of comparison, to the end of perceiving *why* a thing is good and *why* it is bad, can result in the "self-made man" in photography. This "self-made man" needs some schooling in order that problems of our day may be apparent to him. If he has the basis of modern art (thought) he can build upon that individually. "Feeling" alone is not enough, there must be knowledge. Knowledge must be technical as well as historical, to attain which he must persevere. The same severe training that makes the good painter will make the good photographer.

At present there are great possibilities for good in the annual conventions. But these should be enlarged upon. There should be permanent abodes for such gatherings made into treasure-houses of art collections and abiding-places for the recorded accomplishments of the associations.

In looking over the display of the salon now on the walls of the Cincinnati Museum, what fine impulses are evident everywhere! Art is here discovered in photography. How long will it be before the Velasquez arises in photography.

The directions of these pictures are so manifold that it is difficult to speak of

them as a whole. Nothing is more evident than that there is a lack of a common intellectual drift or wave in photography, even though the general tendency is toward artistic quality. Isolation has produced this, and it is to be regretted that minds so gifted cannot better have the benefit of one another's influence.

The story-telling picture—the pitfall of the art of our century—lingers in this collection. Here qualities that insure beauty for beauty's sake are outbalanced by the story, and it is not worth while to dwell upon them.

There is a picture by Mr. Van de Grift, of Sidney, a translation of Bertrand's "Death of Virginia," embodied in the salon for its cleverness in imitating the original. Mr. Van de Grift is a thoughtful artist, and his work hints that he has great reserve power.

An artist who builds upon the manner and methods of the old masters spots the walls with examples. Mr. Benjamin, of Cincinnati, whose study in the Art Academy has given him an insight into Rembrandt's work, shows in three prints his remarkable facility. It is an unmistakably virile and direct art, and is very enjoyable. Mr. Benjamin gives promise in his work of a fine future of achievements. The question arises: Whether in our climate and under our blue skies, in our houses of light material, with interior walls of light tints, an art so sombre, even though powerful and fine as the Dutch, that was suited to gray skies, can ever find full sympathy with our people? The answer is that it can, if directed to meet the characteristics of our people, of the type, and the spirit of a race. Mr. Hollinger's work verifies that it can be done. This artist's strong work is not Rembrandtesque, but echoes qualities of the whole black and white movement of the seventeenth century. Its effect upon us is decorative, that rare quality that in his case is made to serve the portrait as well as the wall. How few photographs have the characteristics required to be a wall portrait. That in itself gauges the modern photographic standard, as most photographs are made only for the album, the portfolio, or the table, the decorative quality being neglected. Art in its higher sense is decorative.

Mr. Appleton, of Dayton, in his refined modern treatment of the figure, has much of the decorative largeness, but is rather too personal as yet to be truly decorative. His work may be compared with the line qualities of the Japanese, who give such telling meaning through their pictures by the variety and subtlety of their strokes. In this direction Mr. Appleton controls fruitful possibilities.

A group of men awake to promise of leadership in Ohio for beautiful portraiture of women are Mr. Decker, Mr. Spellman, and Messrs. Brigden & Geissler, all of different cities. One cannot pass their work without intent study of every picture displayed, the American type is so well realized. Their art is high enough to enable us to see the *type* above the manner of the *picture treatment*.

Mr. Baker, of Columbus, has a composition pictorial in its aim. It certainly is the best in that direction that has graced the walls of the salon. His is the romantic and poetic direction. The muse, seated upon a projecting piece of architecture and holding a lyre, is fine in lighting and admirably supported by a suggestive and subdued background.

Mr. Bowersox, as here represented, loves the gray tone, and the delicate design to make its surfaces interesting and vital. The direction shows what can be done in that kind of conception.

There are good portraits by J. D. MacLain, of Logan, Ohio; Dozer & McLain, of Bucyrus; Mowrey, of Ashland; by Mr. Roting and Mr. Brenner, of Cincinnati.

Mr. Sperry shows work that is fresh,

vigorous, and promising. Mr. Bellsmith's pictures have similar qualities.

There are a number of pictures in which groups have been attempted, but in these efforts technical beauty is overpowered by the want of ability to balance black and white masses, sharp forms, and story-telling influences. The study of old masters will not avail much here, but intelligent study of Japanese art will produce that understanding of the decorative quality absolutely required.

The jury, in forming the salon of 1895, found it necessary not to draw the line too closely, as the change was very radical. In consequence a large proportion of the first year's salon cannot be classed with that of the second.

The general aspect of this group is a reminder of the work seen in all our large cities, East and West. A critic basing his judgment upon these would say that the art has decided limitations and apparently depends for its variety on the difference in the type or costume of the sitter. Photography, from East to West, permits the one Gainsborough tree to appear from behind innumerable women.[1] The same untruthfulness of effect, from a want of study of the relation of the sitter to the background, appears. But most common of all is the lack of knowledge and power to control the few elements the art claims—*light*, *line*, and *mass*.

The same critic would come to the conclusion that here is an art favored by patronage; that it had never attempted to gather its triumphs and form a school and a standard. Every other art is the result of training in a place devoted to that purpose and thoroughly equipped for it. Photography alone forms the exception, and the result is that there are evidences of talent and fine ability everywhere; but rarely is there an exhibition of a control of the elements forming the art.

Composition is the study which dominates in photography. Its beginning is beauty of expression in the large black and white effects; its end is the perfect support of the technical qualities to that beauty. Burnet's analysis of *composition* is no longer applicable to our time, in which the decorative element forms the universal movement.

Photography has the possibilities of the perfect art. It has every note that nature gives to any art. What it demands is the trained mind, the sharpened perceptions, and the pure aspirations. Has any art started, developed, and matured without the co-operation of those who practised and those who loved that art? The history of Greece, Europe, and Asia shows that the arts flourished in centres, in schools. And in the widely-practised photography of America we have no school, no place where ideas may ferment and form and mature into pictures, excepting the annual State and interstate meetings, the character of which is too fleeting to be strongly felt. Why cannot this art, with its large organizations, create an academy, finely fitted out with masterminds and masterpieces to foster comparisons with the sister arts?

The aspirant to the art of photography should have a period of years in which to pursue the purely artistic and therefore ideal, as apart from the mercenary considerations and temptations. The habit of feeling and thinking high should be firmly implanted. He should learn to read the beautiful and to understand it. He should not alone be able to select through feeling, but to know why he selects. As has been before hinted, there is a reason for everything that is good as well as for everything that is bad in art. It is the duty of the artist to acquire this knowledge. The common conception is that it cannot be acquired; but

[1] The result of a wide appreciation of the Reynolds backgrounds introduced by Mr. Seavey.—ED. W. P. M.

the reply comes that success in art depends upon the training of the perceptions; that art is assisted by logic and permeated with it; that instruction can be given on these points.

A large grasp of the art can result only from the growth and development of the individual, earnest in his attempt at acquiring knowledge through years of effort.

Thus the student, filled with the study of the triumphs in art, confident in his knowledge and ability, and skilled in hand, his technicalities mastered, may give way to the impulses that sway his nature and ally himself with a thought-movement, or, in consciousness of his own strength, make an art of his own and crown his life with mastery.

H_2O IN PHOTOGRAPHY.

BY WILLIAM F. MILLER.

WATER (H_2O) to-day, as ever before, is at the same time the best friend and worst enemy with which the photographer has to deal. Used with a due appreciation of its component parts, it becomes a faithful ally; misunderstood and misused, it presents a series of technical problems that bid defiance to success. Dry plates were, at the outset, peculiarly sensitive to its differences, while the new printing-out papers were even more so. Manufacturers of the former article, however, were able in the course of a few years to overcome most of the obstacles presented by variations in the emulsions, as well as modifications of the developer. On the other hand, the paper emulsions, which not only are affected by the multiple differences of the raw stock used, but also possess a highly sensitive free silver to be acted upon by everything foreign which the water may contain, still present difficulties which even the most earnest efforts of careful and conscientious demonstrators have not been able to surmount.

The fact is, that to intelligently cope with troubles of this description the photographer must be possessed of at least a rudimentary knowledge of chemistry. And right here I can with absolute truthfulness assert that the vast majority of the entire profession have scarcely given a thought to the very foundation of our art. Lack of time or inclination, and a score of other reasons, are given as an apology for the failures of even good men to master what is simple for the average schoolboy. And hence it has come about that the land is desecrated with attempts at photography which are an insult to good taste and a matter of humiliation to those who seek the elevation of a noble profession. The smaller photographer, who is as dependent upon the public as the laborer is to the man who owns the mill, and who should least of all be thought the ignorer of all care and pains, is the worst offender in this detail and the last to follow any suggestions for betterment. This may be not inaptly termed the irony of photography.

I remember once reading in an Eastern newspaper an article regarding alterations to be made in a certain building, followed by a paragraph which stated that "Mr. Blank will fix it up in good shape for a photographic saloon, raising the roof and making various improvements." I could not help thinking that perhaps the photographer would have done better as a saloon-keeper—at any rate he could not have failed to succeed in that vocation, with his ability in the roof-raising line.

Photography occupies but a minute corner of the vast area of chemistry; but

the delicacy of its various manipulations should make it at once the source of inspiration and life-long study to him who approaches it reverently and with the proper spirit of progress. It has been my good fortune to have witnessed the evolution of the dry plate as well as the advent of the new printing-out papers; and it has likewise been my despair to behold, at the closing of the brightest century in the annals of the scientific world, not as much general interest in the underlying principles of photography as existed fifteen or twenty years ago in wet-plate days, when brains were in demand and the kodak fiend was unknown.

To-day there is a pronounced demand upon the manufacturer to supply all the brains required in the business, so that the mere pressing of the button will bring about all the desired results. And what is stranger still is that the average professional photographer is the one who most desires the universal formula which reduces labor to nought, buries individuality, grinds out the product with machine-like accuracy, and demands not an iota of intelligence in manipulation. The profession is full of people who "cannot work collodion papers because they curl"—as if a few minutes spent in flattening would not easily obviate this tendency; who persistently fog their plates with an excess of alkali, and never dream of reducing it, simply because the formula gives such and such proportions. It is here that chemistry becomes not the master, but the willing slave.

It has been my common experience to hear the assertion that "the water *we* use is absolutely pure." As a fact, such a thing does not exist in nature, as any work on chemistry will tell you. When you dispute such a statement you are immediately confronted with a remark to the effect that "our town had it analyzed and Dr. So-and-so pronounced it the purest in the State." Such talk is nonsense. What is pure and good for drinking purposes may prove destructive in the delicate manipulations of photography. The very element of lime, or calcium, which exists in various forms, may be in just the proper proportions which the human system demands; sulphur may exert a potent purifying effect upon the blood; iron may build up the constitution not made of cast-iron; but the person who can turn out clear prints in a limestone region without recourse to chemistry, work gelatine prints that will not turn yellow where sulphur is found, or get tones on any paper where soluble iron is met with, had better join the ranks of the demonstrator and "learn a thing or two."

It is because of these variations of water that we find sections where collodion papers alone can be used, and other regions where gelatine paper is in the ascendency. It is not a matter of choice with many, but simply bitter, dearly-bought experience that one paper works better than another in this or that particular locality. And yet it is no uncommon thing to meet with other parties who condemn that which they do not use as being utterly bad, without a thought as to the conditions which make it so, irrespective of the article itself. An eminent authority for whom I have the highest respect wrote a strong plea for albumen paper some months ago, because it did not discolor. Now, while I have the utmost reverence for a good albumen print, I cannot but recall my first visit to a certain point on the Ohio River, where the photographer told me that he only toned albumen prints the last of the week in order that they might remain white over Sunday. He never *could* understand why his photographs were "not as good as those he used to make down in West Virginia," but supposed it "might due to something or other (he didn't quite exactly know

what) in the water." It took me just about ten minutes to investigate the source of the supply, and, as I supposed, sulphur was plainly visible on the banks of the stream, not to mention that which was in the stream itself.

The subject of water is one of paramount importance to the photographer, and one that study will soon enable him to master. It is for no senseless reason that the manufacturer of dry plates asks that melted ice-water, or that which has been boiled, be used in the developer. Does the dark-room man imagine for a moment that ice-water is demanded because it will more easily dissolve chemicals? Stop a moment and reason the matter out. Does not ice in its very formation throw out all, or nearly all, organic matter? And does not the presence of all such substances hasten to a marked extent the decomposition of pyro and all other developing agents? In the old days of wet plates and silver baths, the water *had* to be right or *everything* was wrong. You could not shirk study of the water then, and why should so many of us do it now? Emulsions of gelatine cannot be made successfully without the greatest care on this point; hence why should not the same attention be given to the agent which consummates the chemical triumph?

All known water contains some impurity or another, and if we know just what the foreign matter is, we can in most cases overcome its influence. Thus any ordinary student will tell you that the mere boiling of water containing carbonates liberates the carbonic acid gas, and the element is precipitated in its original form simply by its own specific gravity. Soluble iron may be overcome by the permanganate of potash, and so on with various other agents which render innocuous almost anything that causes us trouble. There are many good filters on the market, notably the Pasteur, that should be regarded as a sort of God-send. If you cannot afford that, you can at least tie a flannel bag over your faucet, flannel side in, of course. The only thing that will bother you and prove almost if not quite intractable is sulphur, that mortal foe to photography. Unfortunately, in soft-coal regions the rain becomes saturated with it; thus rain-water in such localities may be far worse than well-water, which is not as good for our purpose as is generally supposed. Distilled water, if taken from the exhaust pipe of a boiler, is usually contaminated with rust or greasy matter, and should always be avoided.

As I have said, the subject is one for study, but in the brief limits of this paper I can do no more than give a well-meant hint that may turn attention in the right direction. The impetus photography has taken in the past year or two has been a source of wonder to all observing persons. We are on a different basis now, working for higher ideals, grappling with art in its most elevating forms. The public demands something better; in fact, nothing seems too good at the present time for the discriminating patron. And thus it is that he who seeks the pinnacle must needs exercise greater care, more mature judgment, more deliberation than he who starts in at the bottom with nowhere to fall to. You cannot afford to disregard a point or mistake a sign, and so I trust at least some time may be bestowed upon the study of that grand element, without which neither photography nor man himself could exist.

Chassagne's Color Process—the Results. A correspondent of the *New York Herald* (Paris edition) in Vienna says that he has seen some examples of the Chassagne color photographs, and remarks sapiently: "The beautiful effects of light and shade which may be witnessed by looking at a photographic object through a camera were not present in the color photographs shown to me."

THE BICHROMATE GUM PROCESS.[1]

BY GEORGE EWING.

HOWEVER extravagantly photographic "artists" may rage, and the supporters of the *salon* imagine a vain thing, much will be forgiven them for bringing to general notice the great capabilities of the bichromated gum process of direct pigment printing. Though that process has long been known—it has been in use, it is said, at the Vienna Military Institute for over forty years—it was wellnigh forgotten, and would probably have been as dead as Julius Cæsar in another lustrum had not Mr. Maskell redirected general attention to it by his exhibits at the (London) salon of 1893. Thereafter, one of the first to apply himself to a systematic study of the subject was M. Rouillé-Ladevèze, who, on March 14, 1894, read before the Photographic Club of Paris a memorandum giving full details of the process. But the monograph, excellent though it was, would not have availed much if it had not been supported by visible proofs of the charming pictures obtainable by a close adherence to the instructions therein given. These, however, were so far superior to anything till then seen that many of Rouillé-Ladevèze's compatriots were induced to follow him, and they were soon followed by those of other lands who longed for liberty of artistic expression unfettered by material restrictions, until, within a few months from the publication of the memorandum, the Exhibitions of London, Paris, Brussels, and Vienna showed pictures produced by the bichromated gum process that as much charmed artists as they put profane scoffers to utter confusion. Since then, studied and practised by zealous seekers after the beautiful, the process has made steady progress; and, if to-day it has not quite attained perfection, or if there still remain things unknown, the matchless results already obtained clearly indicate it as the printing process of the future. Foremost among those who have steadfastly labored for its perfection may be placed three members of the Vienna Camera Club, Messrs. Watzek, Henneberg, and H. Kuhn. These gentlemen have verified, corrected, and completed the observations of Rouillé-Ladevèze, and have published the result of their investigations in the *Wiener Photographische Blatter* (Nos. 4, 7, and 10 of 1896). As their articles should save novices many fruitless trials and discouraging failures, the following *précis* will, no doubt, prove useful.

Paper.—Any close-grained, well-sized paper will answer, though Messrs. Henneberg and Kuhn recommend specially the drawing and water-color papers prepared by Schleicher and Schull, and the "Montgolfier" paper prescribed by Mr. Demachy. This latter can be had either in white or in cream, and other warm tints, and, when the grain is close, gives most brilliant prints. More open-grained papers, Mr. Watzek says, retain the color better, and give half-tones more easily; but Messrs. Henneberg and Kuhn assert that the rough English makes do not give pure white.

Sizing.—Whatever paper be employed, it will be advisable to size it. For this purpose starch or flour may be used, two to four parts of starch being taken to a hundred parts of water, according as the surface of the paper is more or less rough. Dr. Just, of Vienna, sells nine varieties of paper ready-sized for coating.

Colors.—The quality of the colors used is of the first importance, and our authors are particular in recommending certain

[1] Supplementing the article under the same title at page 174 of our last number.—ED. W. P. M.

manufacturers. Watzek suggests the use of pigments manufactured either by Winsor & Newton, of London; Schmincke, of Düsseldorf; or Paillard, of Paris; but finely ground pigments of other makers will, no doubt, serve equally well. All colors are not suitable. Blacks, whether animal, ivory, or lampblack, give the best results; blues, particularly Prussian blue, ultramarine, or indigo, are nearly as good; but browns are exceedingly difficult to work. Besides the blacks and blues named, burnt sienna and English red may be used; other colors had best be left alone.

Character of Negatives.—For the best results, transparent and soft, but by no means weak, negatives should be used. The style of negatives that give good enlargements is what is required. It is possible, however, by varying the proportion of gum and pigment, to obtain very successful prints from negatives of any character. Dr. Henneberg and Kuhn state that, by using burnt sienna, they have succeeded in securing excellent pictures from negatives that were too harsh for ordinary printing-out paper; and they lay down as a general principle that the more gum used the more pronounced the gradation of tones, and that an increase in the quantity of color tends to softness.

Gum.—The gum to be used is the ordinary gum arabic sold by stationers for office use. Mr. Watzek prefers to use a 10 per cent. solution, with the addition of a few drops of phenic acid as a preservative; but Messrs. Henneberg and Kuhn recommend a solution containing equal parts by weight of gum and water, without any preservative. Their experiments having shown that the longer the gum solution is kept the more sensitive it becomes, they prefer to let the solution stand till it becomes mouldy, and to then filter it for use. In this state it will keep for a long time without deterioration.

Coating the Paper.—The sensitive coating is prepared by pouring into a graduated glass measure, in equal quantities, first the gum solution, then the pigment, and lastly a 10 per cent. solution of bichromate of potash, and mixing them *thoroughly*. It is advisable at this stage to test the quality of the mixture by coating thinly with it a small strip of waste-paper. After drying, the surface should show the dull lustre of the crude gum. The brilliancy or otherwise of the coating is, in fact, of the highest importance; for, if the layer is too brilliant, it indicates that there is too much gum, which will disappear with its contained color in the subsequent operations, and, if the coating is very dull, the shadows of the picture will be choked. Between these two extremes a variety of changes can be rung, to suit the subjects to be depicted. As on the quantity of gum depends the grain of the image, a sufficiently large proportion should be used for landscape to secure brilliancy, and a correspondingly small quantity should be employed for portraits. In this matter each photographer must work out his own salvation. The right proportions of the constituents having been settled, the paper selected for printing is coated, in yellow light, with a thin layer of the mixture. For the purpose use a large and broad brush fully charged with the sensitive gum solution, but be careful to avoid all brush-marks or other unevenness, and to lay on the coating so thinly as to permit of the underlying paper being seen. When the ground has been laid, go over it with a badger's-hair softener or broad camel's-hair brush, so as to secure a perfectly even coating, for on this depends success or failure. The coating having been satisfactorily distributed, the paper is to be dried quickly over a stove. It is essential that the paper be absolutely dry, otherwise the color will dissolve in washing; but care should be taken to avoid scorching, as that would produce indelible marks.

Printing.—Paper prepared as directed may be kept for a few days, but it is always advisable to use it as fresh as possible, preferably immediately after sensitizing. At this stage the technical skill of the worker will have most occasion for display, since good results are obtainable only from correct exposure, and the length of exposure depends on the quantity of gum in the coating—more gum, more printing. As the light impression is not visible till after development, the depth of printing has to be judged by a photometer. Any one of the photometers commonly used for carbon work will do, though our authors employ Fernande's, and find that the blue-black tints require from 3° to 4° on that instrument (*i. e.*, about two minutes in sunlight), black colors from 4° to 6°, and brownish-yellows about 10°. Mr. Watzek says, however, that the exposure, on a fine winter day and with a soft negative, should range from a quarter to half an hour, the difference depending on the color of the prints and the quantity of the bichromated gum in the film.

Development.—After printing, the paper is immersed in a dish of pure cold water, which is changed every few minutes, until it ceases to show any trace of yellow caused by the bichromate in the coating. Once the bichromate has been eliminated, the further operations can be comfortably carried out in daylight. If, now, the exposure has been correct, the outlines of the image will soon show themselves at the points of greatest contrast, and the highest lights will appear in the cold water. Rock the tray for about five minutes, and then add a small quantity of tepid water of about 70° F., increasing the temperature from time to time till the image commences to appear. Now carefully lift the print on to a sheet of glass, cautiously avoiding contact with the surface, and, holding it over the basin, keep pouring water on the picture. If the exposure has been too short, development will soon be completed, but the image will be weak. Over-exposure, on the other hand, will cause the image to hold back, and in that case recourse may be had to the sawdust soup recommended by Artigue to bring out details. Finally, replace the print under water, and, by means of a soft and fine brush, remove the parts that offer the greatest resistance, clearing up the portions that appear too dark and eliminating useless detail. Proceed, however, with the utmost caution so as to avoid marks, and do not allow the passion for "artistic" results to annihilate photographic excellence.

After Operations.—Development having been completed, the print is immersed in a 10 per cent. alum solution, to remove the last traces of bichromate, and, after thorough washing in cold water, is dried. It should then be varnished with any good crystal varnish, as that gives depth and transparency to the colors, particularly to those, like umber and burnt sienna, that have a tendency to appear too deep.

Final Remarks.—Printing in clouds from a second negative is not possible unless, after development, the sky portion is resensitized, printed on, and redeveloped. By this second sensitizing, however, effects in two colors may be produced. Certain authors recommend the use of soda and acids in development, but Kuhn is distinctly opposed to their use, as they diminish the intensity of the shadows.—*British Journal of Photography.*

Poisons Used in Photography. In the April number of the *Photogram* Mr. C. F. Townsend gives a useful list of the poisons used in photography and their antidotes, with some practical notes relating thereto. The paper is one which should be preserved in some convenient place for ready reference.

PHOTOGRAPHING FOR HALF-TONES.[1]

BY CHARLES STADLER.

THE difference between what is usually considered a good or artistic photograph and a photograph good for reproduction is considerable. A good photograph in the artistic sense, looked at for the sake of the photographic picture, has to have certain qualities which render it unsuitable, or less suitable, for reproduction as a half-tone. The illumination in this case is different. The aim is to give, as much as possible, the same effect, the same impression, as was seen by the artist. A certain softness is needed, and just in this a good photograph for art purposes differs from a good photo for half-tone reproduction. The half-tone photograph must be harder —that is, show much more contrast in its different parts.

I may take it for granted that we all here know more or less thoroughly how a half-tone is produced; that a picture, usually a photograph, is set up in front of a camera and rephotographed, but this time, through a very fine screen, like a sieve produced on glass, with a mesh as fine, in some cases, as 130 lines to the inch. Now, in consequence of the interposition of this screen, a large amount of detail is lost. This effect may be often seen in the summer time, on looking at an oil painting or other picture, covered with gauze to keep the flies away.

The effect of the screen is to destroy any full line; if we examine a half-tone we shall find that it consists of nothing but fine points of different degrees of intensity. As a consequence of this weakening effect of the screen upon the photograph and its breaking up of lines, it is altogether absurd to make a half-tone from a line drawing. The name itself indicates that a half-tone gives roundness and transitions from lights to shades. A half-tone from a very close line drawing may sometimes be done as a makeshift, but never for high-class work. As to the difficulties in getting a really good photograph for reproduction as a half-tone, they consist mainly of two—the physical and the financial. As for the physical trouble, one part of it consists in this, that nowadays work has to be done in too much of a hurry. Take, for instance, a machine; the proper way is for a photographer to study it from different points of view, and not only this, but understand it. He should, if possible, get it worked for him so as to more completely understand it, in order that he may give prominence to the new invention, or important part which should be noticed, while at the same time he preserves a good picture, appealing to the public.

As to the financial difficulties, these may, to an extent, be included in the physical. A photographer must give his time, which represents money, or should do so. In consequence of unfavorable weather or unsuitable light, he may make some wasted journeys; but if he be a poor workman, he will have very little trouble; he will make an exposure, "hit or miss," and go home again without loss of time.

Photographing in basements and in dark and confined places where the flash-light must be used means increased difficulty, consequently increased expense.

The one thing against which there is more sinning than all others is in making photographs when the light is not suitable, with perhaps the sunlight streaming in at the windows toward which the camera is of necessity pointed. In such a case we ought to go away and return at some other

[1] Extracted from a paper read before the January meeting of the Chicago Trade Press Association and reported in the Inland Printer.

time of the day, when the light is suitable; but because of the delay and expense involved, this, too often, is not done.

What makes good photography expensive is the time occupied in going after subjects; not only the light is not good, but very often things are not ready. In addition to this are some minor matters, such as the quality of materials used, plates, chemicals, paper, etc.; but a very important matter is the camera, and, above all, the lens. The proper way to take a good picture is to select the most favorable point of view, and set the camera there and there only; but if we possess only two or three lenses we cannot do this. In such case, in order to get the whole of our subject right on the plate, we may have to bring the camera closer to it or move it further away; and even if we have plenty of room to do this, which is seldom the case, we do not get such good results as if we have exactly the right lens for the work. To do this a considerable assortment is required, possessing different qualities and different angles.

These lenses, too, are quite expensive, and to the button pusher with his $5 camera, who feels himself the equal of any photographer on earth, it may be a surprise to find what a small fortune can be invested in lenses and apparatus. Speaking for myself, I have not a lens that cost less than $50, and possess one for which I paid $450, though there are photographic lenses, for very exceptional scientific work, costing as much as $2000. The camera itself—what the professional photographer familiarly calls a "box"—is not a cheap thing, and must be in various forms for different kinds of work.

For the hired help which it is necessary to have, good operators are very expensive, and although this may not be a matter which interests the man who gives the order for a photograph, still it helps to explain why something more has to be charged than the mere cost of the paper on which the print is made.

In ordering photographs from which half-tones are to be made, the question arises, what is the best size? And also what kind of print is best? As for the size, this depends a great deal upon the half-tone and upon the subject to be photographed. For landscapes, buildings, and things of that kind, the photograph should not be much more than twice as large as the resultant half-tone; but for commercial work—by this I mean things done in the studio, such as furniture, pottery, etc.—it is better to make the photograph much larger. The reason for this is that if the camera is put quite close to the object to be photographed, details are preserved which are lost if the camera is at a distance, chiefly in consequence of the atmosphere lying between. For instance, in a piece of furniture, if the camera is near, every detail of the markings or grain of the wood will be shown, and this will still be distinct in the reduced half-tone, if the original photograph is made with good, contrasting effect; but with the camera at a distance and the interposition of a deeper stratum of atmosphere these details are softened or altogether lost.

What kind of print is best? This is a question individual to the half-tone operator, depending very much on the process or modification of the process he uses, but, as a general rule, the majority of half-tone men prefer highly polished pictures—that is, pictures with a very glossy surface and having a reddish tone. The reason why a reddish or chocolate color is better is that the red tone of the photograph forms a contrast with the screen. This screen consists of a network of intensely black lines, and if the photograph is intensely black, too, it forms a blur in the dark parts with the lines of the screen. It is possible that some half-tone workers prefer a matt-surface paper; but, so far as I know, very few do

so. With a matt-surface paper, it is quite difficult to get the right strength, because details in the shadows are apt to be inky black or else too weak. Of all the objectionable papers, however, a blue-print is the worst. This is an abomination both from an artistic and a mechanical point of view. It may surprise you to know that it is very difficult to get a good negative, or a suitable negative for blue-printing, as the paper is not sensitive enough for half-tones. In a negative which is good for blue-prints, you can hardly see anything at all. Here contrast is carried to the extreme, so much so that nearly all details are lost. Blue paper is cheap enough, and anyone can make it, but, by the time it is done with, it costs more than the ordinary silver paper.

Where size and weight admit, it is better to send the subject to the photographer's studio than to take the camera to the subject, because everything here is right, and the light can be regulated as desired. This matter of lighting is the most important thing in photography. Take, as an illustration, portrait photography. Two men may have equally good studios, equally good cameras and lenses, but the one man does such fine work that he can easily get $12 or $15 a dozen for his productions, while the other man has difficulty in getting $3, and the difference between the two is due to absolutely nothing else but the lighting. Light is the photographer's tool, as the pencil is the artist's or the chisel the sculptor's, and some men are born with a greater talent for using their tools than others can ever acquire.

Lighting in a factory is always bad, and if we want it improved by hanging up screens, etc., there is often a large amount of dissatisfaction at the trouble occasioned. What is described by the manager or owner as an "elegant light" is frequently abominable from a photographic standpoint.

The retouching of photographs is an important and perfectly legitimate part of the work, and this retouching may sometimes have to be done, not only on the negative, but also on the print itself, by means of water-color, to obtain high-lights, etc.

In conclusion, I wish to say a few words about photographing direct from the subject through the screen, instead of first making a silver print. Many people think that to do this in every case is an advantage, and that a stronger and better picture is the result. This is a mistake. Some things can be done in this way, provided they are flat or nearly flat, such as a plate or a bas-relief, but if the subject has considerable depth, such as a piece of furniture or a machine, the half-tone cannot possibly be done at all.

NEWS AND NOTES.

A SERIES of illustrated articles on the origin and history of the book is being contributed to the French journal *L'Imprimerie* by our esteemed Paris correspondent M. Charles Gravier. The papers are full of interest and value to all engaged in the making and illustrating of books.

WRITING in the April *Inland Printer* "A Western enthusiast" admits the truth of the statement that there is more photo-engraving done in one week in New York City than there is in Chicago in a month.

Acetylene for Portraiture. At a recent meeting of the Edinburgh Photographic Society, Mr. R. Irvine stated that he had produced successful drawing-room portraits with 12 60-candle burners (Bray $\frac{5}{00000}$) and acetylene gas.

AMONG the hundreds of photographers who, in out-of-the-way places, are doing honor to their craft by the steady output of good work, Mr. S. H. Parsons, of St. Johns, Newfoundland, deserves record. Aided by his son, Mr. Will Parsons, this capable photographer has for years conducted a business which, in capacity and quality of work, will compare favorably with our metropolitan studios. We are pleased to observe, in the second edition of Prowse's *History of Newfoundland*, a voluminous work recently published by Eyre & Spottiswoode, London, many excellent portraits and views from the establishment of Mr. Parsons. These materially add to the interest of Judge Prowse's book, which would be sadly incomplete without them.

The Glass-house or Studio. Mr. Thomas Bolas, in a recent article on this subject, urges upon British photographers the advantages of constructing their skylights after the fashion recommended by Philadelphia photographers over twenty years ago. The forms and appliances advised, with full details of construction, may be seen by reference to the chapters on studio construction in *Quarter Century in Photography* and *Photographics*.

IT is known that male cocoons give much more silk than female, and M. Testenoire, a silk expert of Lyons, has employed the X-rays to distinguish one sort from the other by taking a picture of the chrysalis inside the cocoon. The eggs inside the female chrysalis are not as easily penetrated by the rays as the rest of the chrysalis, and appear distinctly in the photograph or on the fluorescent screen. The cocoons can then be selected according to their value.

Focussing. The idea of many photographers, some professionals as well as amateurs, is that the proper thing to do always is to get the image or view sharp. But to the scientific worker, and to one who knows something of art as well as of photography, this is by no means an invariable rule. The *Photographisches Notiz-buch* gives a method adopted by one of its readers. In order to make the best of the depth of focus in the lens, the most distant object that is desired to be sharp must be got into focus before all else without using a diaphragm. After this has been secured put in the stop selected as being the proper one to use on the occasion, then observe the point (nearer than the one taken at first) where the sharpness ceases. Then remove the stop and focus this point; again replace the stop and focus this last point; place the stop again in the slot, and the result will be satisfactory. But in photographing portraits the reverse method should be adopted; the nearest object must be first focussed, afterward dealing with those points the more distant.—[We would not advise this method of procedure when either the Goerz or Zeiss lenses are employed.—ED. W. P. M.]

PHOTOGRAPHERS who can refer to the soap advertisement printed on the back cover of the *Ladies' Home Journal* for April may secure a capital suggestion for a new and attractive portrait style. The combination of a vignetted figure surrounded by a profusion of artistically arranged flowers is one which would persuade business. The idea suggested, as may be seen in the advertisement mentioned, is wholly different from the abominations known as "scroll vignette negatives" in the catalogues of various dealers.

Some years ago Mr. Lafayette, of Dublin, produced a picture of this sort which won for him much praise. It showed a three-quarter or full figure portrait of a lady, seen, as it were, in the midst of a flowery arbor. The figure was not projected against the flowers, but was seen through

them. This illusion was produced by using a large sheet of plate glass at some little distance in front of the figure, on the glass was painted the floral decoration, and behind the figure was an appropriate background. This device was, we believe, patented in Great Britain. The pictures so made were very soft and artistic in effect.

The *Camera Club Journal* (London) says: By the courtesy of Sir Henry Trueman Wood, some members of the Camera Club have seen a few of M. Chassagne's prints and transparencies. We cannot say that any of them are particularly pleasing. At first sight the prints much resemble tinted photographs, but an examination with a magnifying glass shows that every piece of photographic detail is separately picked out in color.

There are two points about these color photographs that are strange, and certainly require explanation. First, the whole picture is not always colored, some portions having merely the tone of an ordinary photograph; and, secondly, from the appearance of some of the prints, the negative has been retouched, and the retouching marks have taken the color quite as much as any other portion of the picture.

Carbon Printing. It has been said that the carbon process is one of the most difficult to work; well, so it is; but what of that? Are we going to let such a process with all its advantages be unused because it is difficult to work? If we are enthusiastic workers we will be content with no process but the best; besides, half the pleasure is in the mastering of a method. There will be failures at first; but never mind the failures; if a good negative of a subject which will make a picture is possessed, spoil half-a-dozen, or, if necessary, more prints, but get one good and permanent result in a suitable color, and you will be proud of it. This sort of thing will be found expensive, and fewer negatives will probably be made; but all the more care will be taken in the production of those few; therefore the standard of work will be raised, not only in the printing, but in the negative-making. There is no doubt that the ease with which we can multiply our prints makes us more careless in their production than we would be if only one impression could be taken; then we would find no process too difficult for us, and we would do everything in our power to insure a beautiful and permanent result. I fancy we are too apt to have the feeling that, as we always have the negative, it does not matter very much whether the prints taken are first-rate or not. We can do something better at any time.—J. B. JOHNSTON.

Uranotypes, according to an "An Old Faker" in the *News*, are prints made by the following method:

"On a 20 per cent. bath of nitrate of uranium float a chemically pure paper—Whatman's, Rives, Saxe, or any other kind of the user's fancy—for ten minutes. Dry in the dark-room, before a fire if expedition is required. Expose, under negative, to good light for fifteen or twenty minutes. Develop with a 2 per cent. solution of ferricyanide of potassium and wash. The image now is a fine red, which may be toned with gold, platinum, sulphate of iron, etc. A fine gray image is obtainable by floating on an acidified nitrate of silver bath.

"Uranotype was the invention, the discovery—what you will—of one of the Niepces, and was described by Abney very fully about 1880 or 1885, in his *Chemistry of Photography* or *Photography with Emulsions.*

"The process is extremely simple, and its permanence, so far as I have been able to judge, about equal to albumenized prints, which may be absolute, properly treated."

B. J. Falk *New York*

THE LAUGHING GIRL

PAPERS FOR PROFESSIONAL PHOTOGRAPHERS.

BY JOHN A. TENNANT.

XXV. CHILDREN: THE KEY TO SUCCESS.

It is written somewhere or other "that in a multitude of counsellors there is wisdom." Be this how it may, I have always believed that, presuming he has common sense, a man contains within himself all that is essential to his success in life, without necessity of troubling other folks as to his course in this or that. Hence the giving of advice has ever been with me as tedious a matter as taking it from another. Not that I would be understood to say that the benefit of another's experience is to be disdained, but rather that the pleasures of being taught one's self by experience at first hand seem, to my mind, to compensate for the hard knocks which oftentimes come with the teaching. And yet, when one has given advice, and its following has resulted in success, it is difficult to resist the temptation to repeat the exercise. This, then, is my excuse for putting forward the suggestion that the easiest road to success in photography is to acquire consummate skill in making pictures of children.

A POINTER FROM SWITZERLAND.
(F. Boissonas, Geneva.)

Some years ago a young photographer who had made a bad beginning by venturing his little all to start in business for himself, only to find that his abilities were insufficient to enable him to successfully compete with his fellow-photographers, came to me with the old, old question: "What shall I do?" As our conversation drifted, he pulled from his pocket a portrait of his little son. It was a clever piece of work, and indicated either a lucky exposure or special skill with such subjects. Thereafter it was made plain that the man was wrapped up in his children, and I advised that he go back to his studio and concentrate every energy upon child portraiture.

He went, and succeeded. It was only a week or two ago that I heard from his own lips the full account of his work

Turning the suggestion over on his return home, he had concluded that, whether successful or not, he would be at least happy in the pursuit of the specialty ad-

W. H. Keeler, Washington.
BEFORE. AFTER.

vised. His wife entered into the work with him, and I gathered that from the beginning they had had nothing but smooth sailing. Their town probably boasted ten

W. F. Core, Lincoln, Ill.
SIMPLICITY.

or fifteen thousand children, and by one device or another they had so thoroughly worked the field that after the first few months the working hours were largely occupied with children, and grown-ups

H. E. Watkin. Scarborough, Eng.
A FAIR SAXON.

were incidental only. They have now an enviable patronage.

W. F. Core, Lincoln, Ill.
A BUD.

It may be, of course, that it was the possession of an objective point to work for which brought success in this instance,

but the children were the apparent cause of success, and there is no need to seek further into the matter. The example is one worth following, even if it simply supplies an objective point. Not every photographer can be expected to do what was done in this case. The studio and its equipment were specially furnished for the purpose. The sizes selected to be pushed and the prices asked were, generally speaking, lower than those prevailing in studios catering for general work. The advertising was directed to the one end of securing the attention of mothers, and every possible means adopted to make the children welcome during their visits. Parents were apparently educated to appreciate the desirability of having their children photographed at more or less regular intervals, and so forth. In fact, as described to me, the photographer had effected a transformation in photography as a business in his locality.

Geo. G. Rockwood, New York.
THE CLAM GATHERER.

It is not necessary to detail here the principles of child portraiture; my desire is simply to point out the opportunity the specialty affords as a ready means of success. The interested reader will find many articles devoted to the subject in previous volumes of this and other journals, and from them may form his own method of procedure. The chief requisites are persistent enterprise in drawing the class of trade aimed at; the proper equipment of the studio for the accommodation and pleasure of children; and considerable love and patience in the work. Photographers blessed with wives capable of and willing to help will naturally have the advantage, but I would not be understood to desire to lead any man into an indiscretion in this important matter.

Geo. G. Rockwood, New York.
INNOCENCE.

The few children's pictures which illustrate my suggestion are reproduced from the recent work of photographers who have obtained repute by their skill in this direction. They are sufficiently interesting of themselves to justify their appearance, and will doubtless help in the suggestion of positions in which naturalness and grace shall be considered.

FIGURE PICTURES.

In our last number we endeavored to make plain the advantages to be gained from the pursuit of character portraiture,

W. F. Core, Lincoln, Ill.
EXPECTATION.

considered simply as a training-school for the wider field of general portrait work. The appreciation with which that article has been received, doubtless due to the excellent examples of character portraiture which Mr. Wescott furnished for its illustration, leads us to offer the further suggestion that the figure should receive a larger amount of attention than has been given to it of recent years.

We make this suggestion the more freely because it is painfully evident, even in the work of many of our leading portraitists, that the photographer most frequently fails in his handling of the figure. The proper treatment of the figure, as needs hardly be said, is a matter of supreme importance in all forms of portraiture, but especially in three-quarter or full length pictures. This will be plain if we recall

W. F. Core, Lincoln, Ill.
DEPARTURE.

the fact that in such pictures the general figure presents itself more conspicuously than the features, and therefore largely determines expression and character in

the portrait. We see this in sculptures, where the attention is drawn by the attitude and action expressed in the figure rather than in the features of the subject.

As to the best means by which the portraitist may attain proficiency in the treatment of the figure we need not, for the present, do more than recommend to him the method by which the painter reaches this desirable knowledge, viz., by a thorough study of the anatomy of the figure and unceasing practice in its delineation in all forms, together with the close observation of the works of those masters famous in this department of art. To this end the various reproductions of figure pictures to be found in the catalogues of the *salon*, of the *academies*, and other exhibitions, or the pages of a journal of art, such as the *Studio*, may be profitably studied.

For practice under the skylight the portrayal of ideas, which depend for their expression chiefly on the attitude and disposal of the figure, should be attempted. We are glad to be able to present two good examples of such work here, in which two familiar themes are delineated with more than usual success. These pictures were made by Mr. W. F. Core, of Lincoln, Illinois, and do him honor. In each case the figure is admirably disposed to tell its story, although the effect would have been enhanced if the ground and accessories had been less brilliantly illuminated, so as to have thrown the figure into greater relief, and so have aided in the obtaining of greater depth and softness. We congratulate Mr. Core upon his skill and hope his efforts will awaken in our readers the desire to take up this fascinating study.

PHOTOGRAPHIC NOTES FROM THE AZORES.

BY ERNEST BROWN.

For some years past we have looked forward with pleasure to the annual arrival of odd-time notes and pictures from an Azorean subscriber, Mr. Ernest Brown, of Ponta Delgada, St. Michael's. A few of these are here presented to add to the attractions of our current number.

There is nothing remarkable about Mr. Brown's memoranda. They were not sent for publication. Their charm, in our eyes at least, lies in their point of view. Whether describing his methods of work, or making pictures, our correspondent seems to put aside the complexities which beset the average photographer, and his attitude is one of absolute simplicity. Photography, as far as he is concerned, is simply a means by which he may secure pictorial transcripts of things.

Mr. Brown possesses the happy faculty of appreciation, a power which enables him to enter into the actual spirit of the scene he desires to portray. In reading his notes, or looking at his pictures, one feels, as it were, a part of what is going on, or in touch with the phase of life being recorded. In the selection of the point of view in his pictures, as well as in the arrangement of line and direction of the light, Mr. Brown seems to seek nothing more than the characteristic representation of his subjects. We see this in the two little interiors reproduced; in the one we have the salient features of the primitive mill which yet suffices for the small world of the Azores. There are two figures seen; they add the human interest which is so helpful in all pictures of places associated with human activity, but they do not distract the attention, being made rather to concentrate the eye upon the purpose of the scene. In the other we have a poem

Ernest Brown, Photographer.

THE CHILDREN OF THE FIESTA.

of home life, in which, naturally, the human element predominates, yet is so occupied, and the accessories so skilfully subordinated in their arrangement that what we see, after all, on the mental ground-glass, is a simple transcript of an Azorean cottage interior. We should, perhaps, explain that the values of this interior are more in keeping with the *motif* of the scene in the original picture than in the engraving.

The group of children, which we have had engraved, brings us to the lighter side of life. How true the picture is to the life! The children are decked out grotesquely for a *fiesta*, and have been gathered together for a photograph before the festivities begin. There is no attempt to conceal what is uppermost—expectation, nor effort at anything save the simplest and most pleasing arrangement.

The views reproduced were all made with the flashlight and show Mr. Brown's skill in artificial lighting. If we had room to give a few of his out-door pictures, such as "The Flax-gatherers," "The Washer-women," etc., our readers would agree with us that the happy way in which photography is made to gather in the simple flowers of life's waysides in the Azores is one worthy of a generous following nearer home. Mr. Brown's notes tell how he does it.

When photographing out-doors on a sunny day I avoid as much as possible those subjects which have dense shadows. These I leave for a time when the sky is overcast, so as to secure more detail in the shadows without danger of over-exposing the brightly-lighted portions. Of course this rule must be modified if one seeks effects which call for strong contrasts in masses of light and dark, but I hold to it for most of my work out-doors. Especially

is it to be followed in photographing street scenes in countries where the streets are narrow, as if taken in bright sunlight they come out in the print very black and white—patchy and heavy in the broad shadows. When we want life in a street scene, however, we must have recourse to a sunlit day and use the best available point of view to secure a proper balance of the lights and dark for pictorial effect.

In pure landscape work I generally try to get a dark object—sometimes a tree, or rock, or even a shadow—in the foreground. This serves to throw up the picture, giving it effectiveness and a pleasing value of distance, together with a truer idea of the relations between the different planes of the view. An interesting account of the value of foregrounds for this end was given in the "Letter to Jack" at page 54 of the February, 1895 issue of the MAGAZINE.

Ernest Brown, Photographer.
AN AZOREAN MILL INTERIOR.

Ernest Brown, Photographer.
AN AZOREAN COTTAGE INTERIOR.

To ascertain the best time of day for what one may term a normal exposure on any out-door subject, I find my watch very useful. Holding it in my hand with the hour of twelve pointing north, I myself facing my subject, the hour of the dial which faces the subject when the watch is so held shows at a glance the proper time of day for that subject. Thus, facing a subject *which itself faces the southwest*, and putting the hour of twelve due north, I find that at 2 P.M. the light will properly light my subject located as it is in the northeast. A brief trial will make my description plain.

For small interior work I find nothing so convenient or so efficient as a flash, for with it one can get detail, proper strength of shadow, and avoid halation. I use Scovill's No. 3 magnesium cartridges. Most of my flash views are taken at night, with plenty of lamp- or candle-light in the room for focussing. I do not find the light injurious to my plate unless it shines directly into the lens.

I always develop my plates until the image is seen to be well-defined on the back, for then I am sure that all detail is out, and the plate properly developed. I give two formulæ, either of which I can recommend:

Pyro.

A.—Water	15 ounces.
Pyro	4 drachms.

to which add a few drops of nitric acid.

B.—Water	20 ounces.
Sulphite of Sodium (cryst.)	2 "
Carbonate of Potash	1 ounce.
Bromide of Potassium	20 grains.

To develop take equal quantities of A. and B. For instantaneous or flashlight work take 1 part of A., 1 part of B., and 1 part of water.

Metol.

Water	30 ounces.
Metol	75 grains.
Sulphite of Soda, (cryst.)	1 ounce.
Carbonate of Potash	½ ounce.
Bromide of Potassium	10 grains.

For instantaneous or flashlight work take 1 part of the above and dilute with 1 part of water.

The best fixing bath I know of is Carbutt's new acid fixing and clearing bath.

It is only a short time ago that I took up printing upon platinotype paper. I like it more than any other I have used, for I get much better results and softer pictures. It is surprising that this paper is not more universally used, for it is certainly the simplest photographic printing process, excepting blue-paper printing. I print dense negatives and those of medium intensity in the sun, weak ones in the shade. The paper I use is the AA. quality, for cold development, and I develop my pictures as soon as printed, one after the other, by first wetting them by floating on developer, turning them over quickly, break all air-bells with the tips of my fingers, and watch progress (development is complete in about thirty seconds). As soon as the right effect is produced I stop development by putting the prints into the first acid bath for five minutes, change them to the second bath for ten minutes, and then to the third bath for fifteen minutes, washing afterward for fifteen minutes in running water, and then lay them out to dry.

The acid baths are composed of pure hydrochloric acid 1 part to 60 parts of water. The developer I use is made with the developing salts furnished by the company, which are sold in one-half pound tins, with instructions for use.

WILSON'S PHOTOGRAPHIC MAGAZINE, *Cyclopædic Photography*, and *Mosaics* have been the three great helpers in my work.

ON PHOTOGRAPHING FLOWERS.[1]

BY JOHN BARTLETT.

AT this season of the year—

"When yellow leaves or few or none do hang
Upon those boughs which shake against the cold,"

it would seem more appropriate to discourse—if needs be about flowers—upon those crystal flowers of ice and snow which are the special endowment of the inverted year, rather than

"All the quaint enamelled eyes
That on the green turf suck the honeyed showers."

But as the compliment has been paid me of asking me to read a paper upon my experience in this delightful province of photography, by the members of this Society, whose work has ever been an incentive to raise mine to its highest standard, I shall try to say something, but I feel I can say "nothing novel, nothing strange," but only give a turning over of the ideas

[1] Read before the Photographic Society of Philadelphia, January 13, 1897.

they already possess, hoping that my words may stimulate them to the expression of their experience.

It has always seemed strange to me that pictures of flowers should form so small a portion of the varied displays at our photographic exhibitions, offering as they do one of the most delightful means of exercising one's taste, so beautiful in themselves, capable of such a variety of lovely combinations, and presenting so broad a scope to fancy. We have in them all the elements, pliable enough, and subject to our will. True, we cannot rely upon the ordinary sensitive film to fairly set forth the colors in their true tone relations as they appear to the eye, and hence cannot, like the painter, arrange our flowers for lights and shadows, irrespective of color, knowing that the photograph will invert the relation; yet nature is so lavish in her largess of gradation of the same color that we have sufficient scope in selection to render almost a counterfeit presentiment.

Van Loo & Trost, Toledo, O.

EASTER MORN.

Look at the almost infinite varieties of yellow and red in flowers, from which one may choose just that tint which shall correspond to the true tone he desires to represent in his photograph. We can secure almost any shade of gray. Blue, even in its darker hues, photographs, as we all

know, much above its actual true tone, and so blue flowers take white or pale-gray, and may therefore be harmoniously grouped with the white flowers in the modulation of the high-lights. The very dark-blue flowers, the dark purples, the violets and pale buffs, together with pink and tea roses, make a rich variety of pleasing half-tones.

A little experience teaches us just the shade a color will take, which of course varies with the amount of light to which it is exposed. For instance, a dark-blue flower will come out in the category of grays, toward the lighter shades, if exposed to a strong light; but placed in the shadows of other flowers, it will appear much darker.

In the selection of white flowers, which are, of course, intended for the highest lights, we should give the preference to those having the surface broken up to catch the shadows. The glaucous varieties—I believe that is the term—may be reserved for the shading off. But the smooth-surface flowers are just the thing for a single accentuated point of high-light, which every picture ought to have, as well as a limited area of intense shade.

The whole effect of light and shade in a photograph—that is, the standing out of one part from another—is dependent upon the proper perception of the relativity of one tone with another.

If all objects were either black or white, this sense of judgment of tone would be comparatively easy of cultivation, but the variety of shades of color in objects, and the effects produced by reflection, demand a close and accurate study of things in relation to one another in order to appreciate harmony of light and shade. Not all of nature's accidental combinations are equally beautiful. Some delight us more than others, but nature never offends our sense of the beautiful by the discords we see in badly-conceived paintings.

Really no object can stand isolated, or rather, we have our impressions of things modified by surroundings, and it will be seen that haphazard association of objects, however beautiful individually, may affect us unpleasantly if they are not brought together with an appreciation of the principle of modification by juxtaposition. But as ordinary photographic methods do not properly render color values, the photographer, along with his study of values, must study the peculiar disposition of our sensitive film in its inability to correctly interpret nature. He must, as it were, acquire an extra sense—a photographic vision—in order to secure harmony.

It is, perhaps, because one has by long practice come into possession of this faculty that one has little recourse to the orthochromatic method.

I have employed the various color-sensitizers in taking individual flowers with more or less success, but in groupings I have become so accustomed to arrange with a view to the photographic result that the orthochromatic method has often misled me, and given me flat, tame, and unprofitable pictures.

I wish to be understood that I am a believer in orthochromacy, and am grateful to those who have labored in this important field; but, with all honor to the method, I am inclined to think we often, in its application, repress too much the lower rays of the spectrum in exalting the upper, and make our photograph too uniform in tone—too flat, as we say photographically. But this is the man, not the method, and doubtless orthochromacy produces very charming results.

Sometimes flowers are very arbitrary, so far as photography is concerned, in selecting for themselves two colors which do not take well together. The common field-flower, for instance, with its centre of gold set round with milk-white rays—the favorite of the poets, but not of the operative

J. Will Kellmer, Hazleton, Pa.

EASTER LILIES.

photographer. The damascene white of the petals comes out (with judicious management of exposure and development) in all its beauty, but the heart of gold, alas! tarnishes. Here, if anywhere, the orthochromatic plate can assert its pre-eminence, and one would be foolish not to employ it if his design were to photograph individual flowers of the kind, or a bunch; but if they form members of a general group of flowers, I, at least, would prefer to dust a little powdered chalk upon the centres, or if Easter lilies are the subject, upon the anthers, until the deep yellow is diluted to the required paleness to give proper effect to the photograph.

We might say with Polixenes, in "Winter's Tale," "It is an art which doth mend nature, change it rather," but you retort

> "Yet nature is made better by no mean,
> But nature makes that mean."

The great aim in the arrangement of a bunch of flowers, or flowers in any grouping, is the proper massing of the lights and shades, and the avoidance of spottiness. Flowers offer great difficulties in their proclivity to make the picture have a spotty appearance, not always apparent to the eye. The alternation of light and dark flowers always gives unpleasant results. The grouping looks better when the arrangement of flowers is somewhat diago-

nally in two main divisions of light and shade, the transitions in each being gradual, the dark blending into the light and the light merging into the dark.

It is not difficult to secure proper massing if the foliage is called largely into service. There is an infinite variety in the shades of green, and the artist need not be as scrupulously exact as the botanist in giving each flower its own special leafage. He can draft into service any kind of foliage for beauty's sake.

After the arrangement of the shadows is complete, portions which need lighting up may be enlivened by wetting, so that more light is reflected, but have a care not to make a surface which gives a glare of light causing an aureole on your negative. Even dew-drops may be imitated by sprinkling with water in which a little sugar or glycerine is added to give it a greater consistency, but be careful not to wet the background, if you do not want an unsightly spot on the fair surface.

It is a common practice to fasten the flowers against a wall by means of pins, but the careless grace of nature is better had by laying them upon a table or on the floor, and pointing the camera down at them. I learned this plan from a writer in the *British Journal of Photography*. I have found it a labor-saver, and the results are better. Only we must take care not to get too much light from above on the whole group, which would cause flatness in the picture. A few trials in curtaining off the light so as to get contrasts will give the proper method of illumination. Generally the principal light should come from one direction only. This gives most pleasing shadows on the ground, and admirable relief to the flowers themselves—sometimes almost stereoscopic effect. Cast shadows add wonderfully to the picture. A subdued light is better than a moderately strong one, but there should be illumination sufficient to give contrast.

I am an advocate of slow development for flower subjects, but this is a point to be decided by the photographer himself. Any tendency to harshness must be avoided, and so must tameness.

A variety of beautiful effects may be had by arranging the flowers in vases or urns. The background may be drapery, with gracefully disposed folds or plain. Scrolls, arabesques, or any large figured designs look too obtrusive in so small a picture as a photograph.

Some care is needed in managing the light to prevent unpleasant reflections from the rounded surfaces of the vessels. But often these reflections are an added source of beauty, especially where glassware is employed. The reflection of the window-panes and scenery add much to the interest and pictorial effect. Avoid also elaborate patterns in the vases. Plain vessels give much better contrasts with the flowers.

One error we are apt to fall into at the beginning of our practice is in the possession of the idea that there should be a symmetric balance—that the centre figure should be relieved by objects on the sides of equal proportions. You will very soon tire of such a disposal of things. It gets monotonous. There should be symmetry, but it must result from the balance of lines and masses of light and shade.

An object shadowed by another will naturally be darker in tone, and a dark thing will be relieved and brought out more prominently by being placed before a light one, which serves as its background, and so we can place objects in an appropriate setting with the exercise of a little judgment. Avoid overcrowding the picture. Too much detail detracts from the general interest. It is best to express our ideas in the fewest possible terms consistent with clearness.

A word in conclusion about photographing fruit. Spottiness is more difficult to

get rid of in fruit subjects than with flowers. Sometimes it may be necessary to concentrate the light upon certain portions by means of card reflectors so as to get a proper contrast of light and shade. A bunch of grapes is very difficult to render properly; each grape catches the light, and cries out for individual attention, and so the massing of broad lights and shadows is difficult to secure. Perhaps the best results are obtained by arranging two bunches, one of a very dark variety, and the other of the light green kind. The contrast may be heightened by choosing suitable vine leaves and tendrils for a setting. The grapes may be laid upon a table and the light made to come in considerably from the side, so as to cast deep shadows on the background, the dark variety of course being toward the shadowed side.

A judicious distribution of flowers with the fruit adds much to the picture, but they should be accessory only to the fruit—not in any great abundance. The arrangement is a matter of taste.

PHOTOGRAPHING THE INVISIBLE.[1]

BY JOHN CARBUTT.

LADIES, GENTLEMEN, AND MEMBERS: The subject for your consideration this evening is the "New Photography," or "Photographing the Invisible;" and before entering on the main part of my subject, I will briefly trace the history of photography and what it has accomplished in a little over the latter half of the nineteenth century just closing. While most of the earlier processes of photography are of foreign origin, Americans have been the most prompt to adopt and improve on those methods. And I claim for Philadelphia and her citizens the distinction of having fostered and encouraged the beautiful art of photography more than any other city in the Union. The daguerreotype, named after the discoverer, Daguerre, a citizen of France, was first announced to the world in 1839. The next was the Talbotype, the discovery of Henry Fox Talbot, of England, in 1841, afterward called the Calotype, and was used mainly in taking landscape views. Next came the albumen process; Whipple, of Boston, and the Langenheim Brothers, of this city, were the first to adopt the process in America, that is, of making negatives on glass, and transparencies for the stereoscope and magic lantern. The Langenheim Brothers bought the American patent for the Talbot process, and improved upon it by substituting glass for paper, using albumen as the vehicle to hold the sensitive salts, and called the process "Hyalotype." They were the first to make transparencies on glass for the stereoscope and magic lantern. Robert Hunt, in an article in the *Art Journal* of April 1, 1851, on "Improvements in Photography," says: "We have before us a series of these magic-lantern slides, the Hyalotypes, and we feel bound to declare that their delicacy and perfection of the details cannot be over-estimated." M. Le Gray was the first to suggest the use of collodion in photography, but Mr. Scott Archer, of London, was the first to successfully apply it, and in 1851 published a treatise on the making of glass positives. In America, where the process was speedily adopted, they were called ambrotypes. The same chemical process was used in the making of negatives, and continued in use until the advent of the gelatine bromide process. Dr. R. L. Maddox, of London, in 1871 substituted

[1] Read before the Photographic Society of Philadelphia, March 10, 1897.

a solution of gelatine for collodion to hold the sensitive salts of silver, gave his formula to the world, and the process was speedily taken up by numerous skilled amateurs in England, and by 1876 the professional photographers of England had, owing to the greater sensitiveness of the gelatine plate, begun to use it in their practice.

The first to make a gelatine dry plate in this country, that I have any knowledge of, was Mr. George W. Hewitt, a skilled amateur of this city and member of this Society, and the first dry-plate factory in America was established in this city by myself in 1878, and by 1880 the dry plate began to displace the wet collodion process, which has long since ceased to be used in portraiture and landscape photography. In 1885 I introduced the orthochromatic dry plate in America, the use of which, with suitable color screens, has led to the reproduction in colors of objects in art and nature by the three-color process of printing, with remarkable fidelity. Most of you are of course familiar with the exquisite and truthful representation of nature by Mr. F. E. Ives, a member of this Society. I might continue to the end of the time allotted me in relating photographic methods of the past and present, many of which I have to pass unnoticed.

It is but a little over a year since Prof. Röntgen gave to the world his great discovery of the x-rays, by which it is now possible to photograph the invisible anatomy of the human body, and on the 27th of January of last year the first radiograph was taken in America by Prof. Arthur W. Wright, of Yale University, one day after he had read of the Röntgen discovery.

In passing thus to the practical consideration of the x-ray I will not attempt to enter into a description of the scientific aspect of the Röntgen phenomena, that has already been so fully and ably described by Prof. Houston in his lecture at the Franklin Institute on the eve of October 30th last, and by Prof. Arthur W. Goodspeed, of the University of Pennsylvania, before this Society, who early in February of last year made investigation of the Röntgen phenomena, as did also Prof. Pupin, of Columbia College, and Prof. W. F. Magie, of Princeton, and others. I at once took an interest in the discovery, and conceived the idea that a specially prepared plate would be required to suit the mysterious x-rays, and on February 11th of last year, at the Maternity Hospital, Prof. Magie exposed the first x-ray plate, the case being that of a burned hand with anchylosis of the fingers, one of Dr. W. W. Keen's patients, and the exposure given was 20 minutes. The negative showed full details of the bone structure of the hand. On the same day two of the same kind of plates were exposed by Prof. Goodspeed, at the Physical Laboratory of the University, on objects; time of exposure 21 and 30 minutes respectively, and both proved to be fully exposed; previously exposures to the x-rays had ranged from 60 to 120 minutes. With improved apparatus and further improvements in the x-ray plates, exposures now range from a few seconds to 30 to 60 minutes, depending on the thickness of the part of the body to be radiographed. I will now make an exposure on one of my x-ray plates, simply enclosed in a double envelope; this allows of the object to be radiographed being close to the sensitive plate, the exposure will be 90 seconds, with lower side of tube 12 inches from the plate. I will now ask the President to let me radiograph his hand, the one lacking a finger, which my son will develop, and later can be seen by you.[1]

As confirmation of my previous asser-

[1] The negative proved to have been fully timed, and besides showing fine definition of bone structure also disclosed a fragment of the copper shell, the bursting of which had caused the loss of Mr. Burrough's finger, as shown in the half-tone print.

tion that Philadelphia leads in the application of any new improvement in or use of photography I will quote from a work on x-rays, by Edward P. Thompson, M.E.E.E., page 178, where he says: "In the race to excel in this new art, no one, to the author's knowledge has surpassed Prof. Goodspeed, of the University of Pennsylvania, considered jointly from the standpoint of priority, superiority, quantity, and variety." Of that you had ocular evidence last fall at the lecture given here, and profusely illustrated by Prof. Goodspeed. The hospitals of Philadelphia and other cities are rapidly installing x-ray apparatus, and the surgeons in charge are making most valuable use of the Röntgen rays in diagnosing cases of fractured bones and locating foreign substances, and there are instances where the use of the x-rays has been the means of saving life, notably in two cases in this city, where foreign substances had been swallowed and lodged in the œsophagus. In the first case a little girl of five years swallowed a jackstone, and the location of the same was revealed by a radiograph taken by Prof. Goodspeed, and the jackstone was successfuly removed by Dr. W. H. White, with the speedy recovery of the patient. The second, and most recent, was the location of a small iron staple in a man's throat, that had formed one of the ingredients of a mince pie he had partaken of. Radiographed

by Dr. Max Stern, of the Polyclinic Hospital, and successfully removed by Dr. Bliss.

In orthopædic surgery the use of the x-ray apparatus is of great value in diagnosing the malformation of the bones. The following hospitals in Philadelphia have x-ray installation: the Polyclinic, in charge of Dr. Max J. Stern; the Jefferson Medical College, in charge of Dr. M. W. Coplin; the Pepper Clinical Laboratory, in charge of Dr. Charles L. Leonard; the Medico-Chirurgical, in charge of Dr. E. Laplace, and the Episcopal Hospital.

The apparatus for the successful production of radiographs consists of, first, an induction coil, second, a Crookes tube, third, an electric current, which may be obtained from a dip battery having six or more cells coupled in series, or from a 110-volt incandescent current, controlled by a rheostat, or third, and preferably, a storage battery. This outfit I have here is of the modern type, the induction coil being capable of giving an 8-inch spark in air, and excited by the current from two chloride accumulater storage batteries of 16 volts, the large Leyden jar is used as a safety valve, by allowing one of the conducting wires from the coil to pass the current through it, and make a small spark gap, so that, in case of a sudden increase of the current, the jar would act as a condenser and prevent injury to the Crookes tube. The condenser of this coil has large capacity, and is divided into ten divisions, controlled by a fan-shaped contact, and was made to order for me by C. F. Splitdorf, of New York. It has an improved vibrator that allows the use of a tube of low vacuum to one requiring fully a 7-inch spark to force the current through, and the vibration can be adjusted to give a moderately fast or very fast make and break contact. Of the Crookes tubes we no longer have to look to foreign makers for a supply, as again American genius shows its capabilities in supplying quickly and of the best, there being seven or more makers of Crookes's tubes in the United States. I have here samples of several makes, each differing in construction, and all capable of generating a good quality of x-rays.

The Crookes tube, I may here say, is the most essential part of the outfit, and requires the greatest care in its use. In procuring a new tube I advise that its vacuum should be for not more than half the spark-capacity of the coil it is to be used upon. For instance, if you are using a 6-inch spark-coil, the tube should readily fluoresce with a three or three and a half-inch spark, for after being used a few times it will be noticed that the vacuum has gone higher, and more tension is required on the vibrator to produce the full amount of fluorescence and good x-rays. There are various devices added to the Crookes tubes for the purpose of lowering the vacuum when it gets too high for the current to flow through the tube readily; of these I have here three examples: This one, made by the Edison Lamp Co., of Harrison, N. J., has an auxiliary tube containing at the end a substance that when gently warmed gives off vapor that lowers the vacuum and enables the current to again pass at the voltage the coil is supposed to be used at. This one, made by Emil Greiner, of New York, has a small incandescent lamp enclosed in the stem, which, when connected to a four or six volt battery and allowed to burn for a minute or two, will lower the vacuum when too high. This tube I will use later in illuminating the fluorescent screen. This one, made by Queen & Co., of this city, has also an auxiliary tube containing a chemical salt that when heated lowers the vacuum. A tube without these adjuncts for lowering the vacuum may for a long time be made to give off good X-rays by carefully heating the cathode end with a spirit or gas

Geo. G. Rockwood *New York*

PLAYMATES

flame. In using the tube it is well not to let the anode become heated beyond a small, cherry-red space not exceeding a quarter of an inch, for it is the heating of the anode that so quickly raises the vacuum, and the distance at which the lower side of the tube should be from the sensitive plate very materially affects the time of exposure and the result. Eight inches to ten or twelve is near enough for a hand, the shorter for a small hand and the latter for hand and wrist or forearm, bearing in mind that the exposure must be increased as the square of the distance. For instance, an exposure with the tube six inches from the plate, we will say, 30 seconds; at 12 inches, 120 seconds; at 18 inches, 270 seconds would be about right.

It is with diffidence that I speak of the photographic plate to be used for x-ray work, as I am personally and commercially interested in its production, therefore, I will speak generally of what I consider, after much study and experience, the dry plate suited to the use in radiography. It should be of medium sensitiveness, have a good body of emulsion, be capable of absorbing the x-rays, thereby giving more detail and perspective to the bones. For developer, one capable of searching out detail and at the same time capable of giving density, and not apt to stain the plate by long development. Pyro I would exclude for this class of work, eikonogen with hydrochinone mixed is good, or used separately. I may say, however, that the developer most generally used with my x-ray plates is the J. C. Tabloids I put up. The plates should during development be covered over, and development continued for six to ten minutes, until, if possible, a trace of the image can be seen on the back. After developing and well rinsing off, the plate should remain in the fixing bath for not less than twenty minutes, and all solutions should not be used below 60° Fahr.

I will now have shown on the screen a few examples of radiography: 1, is that of an infant four days old, taken after death, showing the lack of ossification of the joints; 2 and 3, the mummy hand and foot of an Egyptian princess, radiographed 3500 years after death; 4, a rat after being killed by a terrier; 5, a crab; 6, a Conger eel; 7, quail; 8, hand of lady musician; 9, interior dislocation of radius; 10, comminuted fracture of both bones of forearm; 11, tumor on hand; 12, an artificial spectrum made up of strips of colored screens, such as I make for use in photographing paintings. I show this slide to demonstrate that while the colors are transmitted and shown in all their brilliancy on the screen by the light received from the same source that energizes the induction coil and produces the x-rays, when I place the same artificial spectrum behind the fluorescent screen you will observe that the x-rays absorb all the colors of the spectrum, and no color sensation reaches the eye any more than the piece of plain glass above the artificial spectrum. This I believe to be the first time such phenomena have been demonstrated in public, and until Dr. Röntgen or another able scientist proves otherwise I shall continue to believe that the x-rays are the ultra-ultra-violet. This screen I prepared to show to the audience the hand and arm, and will now have the lights extinguished the better to observe the effect, with which I close my lecture, and thank you for your patient attention.

THE *Easter Number* of the Albany, N. Y., *Argus* gave as a special supplement a four-page folder finely illustrated with a number of half-tone engravings. Among these was a full-page engraving from a pictorial allegory of Easter, painted by Mr. E. F. Jewitt, the artist connected with the Albany Engraving Co.

OUR PICTURES.

YOUNG as the year is, we cannot let it grow older without putting on record our warm appreciation of the generosity of those masters in our profession which has made possible the embellishment of the present volume of the MAGAZINE with so many fine examples of American photography. Thus far the roll of honor is one of which the MAGAZINE and its readers may justly be proud: Stein, Falk, Rösch, Sarony, Morrison, Schumacher, Rockwood, Hollinger, etc. All praise to them for their good work and the good-will which so readily shares it with us for the common pleasure and instruction of the craft.

In the pictures which illustrate our current number New York holds the place of honor. We have a special pleasure in presenting a portrait made for this MAGAZINE by Mr. W. M. Hollinger, of the firm of Hollinger & Rockey, of this city. So much interest has been aroused in the work and methods of Mr. Hollinger that we are confident this specimen of his work will meet with an appreciative reception. Like all his portraits, it is instinct with life and art, and no higher praise can be given to a portrait than this. We are glad to learn that his location in our city has so far met with greater success than was anticipated.

It will interest many to know that the subject of the portrait is Mr. Thomas Hall, a gentleman who will, according to authoritative records, go down in history as the originator and inventor of the typewriter.

The prints for our edition possess a special interest of their own, as the first published specimens of Photogravure Board, the new printing-out paper recently introduced by the National Photo-Paper & Chemical Co., of Springfield, Mass., which made the prints. The pictures here shown were purposely toned to the olive-black, now so widely in favor, as most closely approaching the color and finish of the work put out at the Hollinger Studio. Other tones from sepia to purple-brown may be obtained at will.

On another page of the MAGAZINE will be found an announcement of the National Salon to be inaugurated by this enterprising company at the forthcoming convention at Celoron in July. It is of special interest to the ambitious photographer.

We may also mention here, as answering the inquiries of those who have desired to obtain an actual negative "made by Hollinger," but whose orders we were not able to fill, that the thirteen negatives used for our edition in this issue will be sold to the first thirteen applicants at the nominal price of $1.25 each, postpaid.

The picture of "The Laughing Girl" given as an inset, is engraved from a photograph by Mr. B. J. Falk, of our city. Good, though the engraving is, it fails to convey the full charm of the original picture, which has all the relief and sparkle essential in this class of work which so happily combines the portrait and the sentiment. It is fairly typical of the portraiture which has made Mr. Falk famous among the world's photographers, and deserves critical study.

Mr. George G. Rockwood's "Playmates," like the pictures already spoken of, is thoroughly characteristic in its individuality, and shows us that the hand of this veteran "has not lost its cunning" with his favorite subjects, the children. It presents a capital arrangement of two difficult models, and will, we believe, offer a helpful suggestion to those of the fraternity whose faculty of inventiveness lags behind the capabilities of our old friend and co-worker.

THE SINGLE-SLANT LIGHT.

BY GEORGE G. ROCKWOOD.

We have in recent numbers noticed the work of Mr. Rockwood at the Pennsylvania Convention. Among other topics touched upon in his "Practical Talks," there ensued an interesting discussion of the various forms of skylights, Mr. Rockwood advocating the use of the single-slant skylight. At our request he has sent us a copy of his notes and of his sketches on the blackboard at the convention, which we reproduce.

"Recently the single-slant form of skylight has been introduced and discussed as if it was a new thing in the art—in fact a new principle in portrait lighting. The idea is, however, not novel, nor the desirability untried or of doubtful result. Does the average photographer realize that he now uses what is practically the single-slant skylight? or, in other words, that the effects he seeks are precisely the effects which he would secure did he possess such a light?

"A large majority of the existing skylights are known as 'hip' skylights, that is, they are built in two sections, usually joining, say seven or eight feet from the floor. The riser will start, say three feet from the floor, extend five feet in a nearly or quite perpendicular direction, and there join another sash or frame, which will rise in pitch from thirty to seventy degrees. Where they join there is usually a large obstruction in the way of a beam or trap for supporting the two sashes. (See Fig. 2.)

Fig. 1.

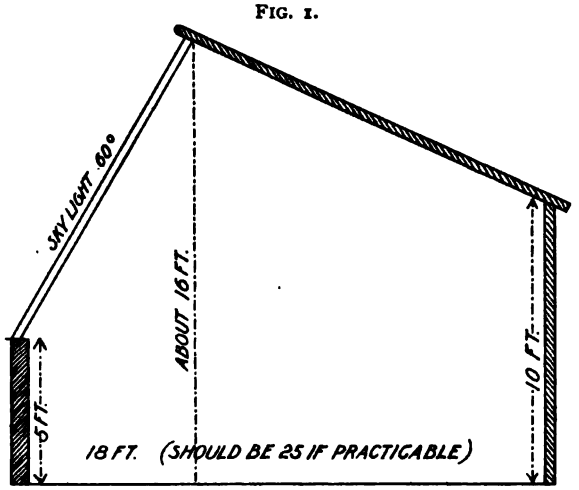
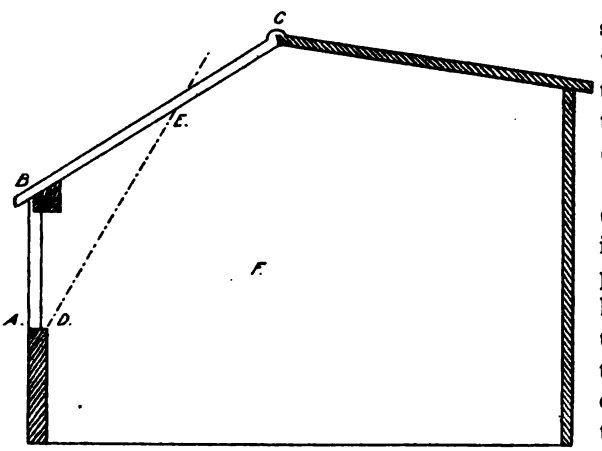


Fig. 2.



"Now, what is the first thing one does under this form of light in illuminating the sitter? We pull down the curtain from C half way (or more) the distance to B; likewise from A a like distance from A toward B. The extent of light ordinarily used extends from D to E. The sitter is supposed to be at F. Now, if the obstruction was removed from the junction of the two sashes at B, would not the change be very desirable, and would it not be

equivalent to the single-slant light represented in Fig. 1, and of which we use practically the same amount and direction of light as indicated by the dotted line in Fig. 2?

"After forty years' experience under the skylight, Fig. 1 is the form which I have adopted for my son's new establishment, where we were unrestricted, except in the width of the room, and could build any kind of a light which experience suggested. Hence, we have repeated the form in use for many years at my old establishment on Broadway and Fifteenth Street, which for general utility I never saw surpassed. Such a form needs but little change in the shades or curtains during the hours of sittings when the exposure of the skylight is due north. As an incidental matter, I may say that I use ground-glass as a personal preference. Many will not agree with me in this, as the difference in quickness is positively in favor of the new white 'hammered glass.' This matter of speed can be easily tested by exposing some sensitive paper under a piece of each sort of glass in a very weak light for a few seconds. It will be seen that the clear or 'hammered glass' will print a much darker tint than the ground-glass. Notwithstanding this, I prefer the soft transparent shadows given by ground-glass, and a couple of seconds' exposure is not an eternity, even in this impatient age."

DEVELOPING FORMULÆ FOR VELOX PAPERS.

BY DR. LEO BAEKELAND.

It has been a rather difficult matter to ascertain exactly the amount of bromide which has to be added to any kind of developer for Velox papers. In the beginning the proper addition of bromide of potassium seems to have been a critical point with many of the users of this kind of paper. The main difficulty lies in the fact that very often some of the chemicals which are used for making up a developer are either not pure or are in a more or less advanced state of oxidation. This remark applies especially to sulphite of sodium, which is sometimes either badly prepared or spoiled by age. Sulphite of sodium is liable to oxidize and transform itself into sulphate of sodium. The granulated or desiccated product seems to contain usually a larger proportion of sulphate than the crystallized. We have been able to ascertain, more than once, that so-called sulphite of sodium had become thoroughly oxidized and transformed into sulphate, and, of course, the latter product does not have by any means the chemical properties which are expected from sulphite of sodium.

There are other impurities which can be found in sulphite of sodium, and which will render its action irregular in the developer—such are chloride of sodium and carbonate of sodium. In some cases sulphite of sodium contains a certain amount of bisulphite; this too has to be avoided.

The photographer who wishes to obtain regular results with his developer will do well to obtain his sulphite of sodium from a reliable house, and to order it chemically pure. If the sulphite of sodium and the alkalies which are used with it in the developer are chemically pure, then it becomes an easy matter to indicate the correct formula for Velox papers in which the exact amount of bromide of potassium is prescribed. It is necessary in every instance to use this developer before it has become spoiled by oxidation, otherwise the results will not be the same. The best way is to make up a certain amount of

stock developer, and to keep it in small one-ounce bottles filled to the neck and properly stoppered by means of rubber stoppers. Whenever any developing is to be done one of these little bottles can be used up, and this prevents any possibility of the developer spoiling by being kept in half-filled bottles.

The following formulæ have been found to be most reliable for developing velox prints:

Amidol.

Water	4 ounces.
Sodium Sulphite Crystals .	200 grains.
Amidol	20 "

10 per cent. Bromide of Potassium solution, about 5 drops.

Metol.

Water	10 ounces.
Metol	25 grains.
Sodium Sulphite, Crystals .	½ ounce.
Sodium Carbonate, desiccated[1]	120 grains.

10 per cent. Bromide of Potassium solution, about 20 drops.

Metol-quinol.

Water	10 ounces.
Metol	7 grains.
Sodium Sulphite, Crystals .	½ ounce.
Hydroquinone . . .	30 grains.
Sodium Carbonate, desiccated[1]	300 "

10 per cent. Bromide of Potassium solution, about 10 drops.

LABORATORY OF THE NEPERA CHEMICAL CO.,
Nepera Park, N. Y., April, 1897.

[1] If you use crystallized carbonate of sodium, then take double this quantity.

A DISPUTED BAS-RELIEF PROCESS.

AT page 170 of our last issue we gave an account of a process for producing portraits in bas-relief, communicated by Mr. George G. Rockwood, as given by him before the Pennsylvania Convention at Harrisburg last January.

From information placed at our disposal by the Medallion Process Co., of this city, and a careful inspection of the patent claims granted to Mr. H. C. Fairchild, inventor, on behalf of this company, it would appear that Mr. Rockwood's method so closely resembles the medallion process that photographers using the method given in our pages lay themselves open to suit for infringement of the Fairchild patent rights.

We publish herewith a letter from Mr. Rockwood, which fully explains his good intention in the matter, and need hardly add that, as far as this MAGAZINE is concerned, we had no desire to injure Mr. Fairchild's right in his invention, and published the process as coming from Mr. Rockwood for the information of the fraternity.

Our limited space will not permit of reprinting here the claims set forth in the patent specification (No. 576,047, January 26, 1897) covering the process of the Medallion Co., but we may say that the claims allowed include several features referred to in the method given by Mr. Rockwood. Those who use the process must therefore do so at their own risk. The Fairchild method, which may be secured at a reasonable price, is a simple and reliable process and gives excellent results. It has been purchased and very highly commended by Sarony, New York; Dabbs, Pittsburg; Seavey, New Castle, Pa.; the Hartley Studio, Chicago; J. F. Ryder, Cleveland, and many other prominent workers in the profession.

Leaving the patented claims in the matter to speak for themselves, we cordially indorse Mr. Fairchild's process and wish him all success in the introduction of the invention.

NEW YORK, April 7, 1897.

DEAR DR. WILSON: In answer to your inquiries concerning the possible conflict of interests between the Fairchild Medallion Co. and the process you gave in the last number for making photo-medallion pictures, let me say that Mr. Fairchild's

process is an excellent one, which I bought and paid ($50) for. He represented to me in the most positive manner, and to my satisfaction at that time, that his claim (*which had been allowed*) was upon the use of the furrows cut with a knife in the back of the photograph, by which means relief was obtained by mechanical pressure from underneath. That was his *only* claim.

One of my people suggested the use of blotting paper, and I found it worked a good deal better—at any rate with greater facility and accuracy than cutting the card-board according to his patent.

Owning the right to use his patent, I have no object in taking another method than to use the one which I considered the best. If his representation to me was correct, the method we adopted could not interfere with his "claim" as he set it forth.

Now, the best way to reach a conclusion would be to publish his "claim," and let us all see if it does conflict with the method in use in my establishment. If so, I should advise my friends to refrain from infringing upon his rights. Certainly I would be the last one to do Mr. Fairchild any injustice, and if his patent is good, or if my methods infringe, I shall regret that my enthusiasm and desire to help my fellow craftsmen have exceeded both good judgment and knowledge.

The final summing up is this: If his representation to me was correct, my method is no infringement. If he revised his "claim," and it was again allowed, but in such a form as to make the two methods conflict, the remedy certainly is apparent: people should not use it.

Yours very truly,

GEO. G. ROCKWOOD.

ASSOCIATION NEWS.

PHOTOGRAPHERS' ASSOCIATION OF AMERICA.

IN our last issue we gave the Prize List announced for the coming P. A. of A. Convention at Chautauqua, July 12th to 17th, inclusive. Following are the official minutes of the Executive Meeting held at Jamestown, N. Y., February 9th and 10th, received too late for insertion in our April number.

The meeting was called to order by President Hayes. Ex-President Bellsmith turned over all money and a report of all the business for 1896. Those present were C. Hayes, President; J. Will Kellmer, First Vice-President; W. G. Thuss, Second Vice-President; George W. Varney, Treasurer, and A. L. Bowersox, Secretary. Treasurer Varney presented his bond, with Arthur W. Aklen and Frank B. Ullrey, of Chicago, as bondsmen. On motion the bond was accepted. The report of the Treasurer was then read, Mr. Kellmer moved and Mr. Thuss seconded, that the report be received and filed. Carried. Mr. Kellmer referred to the fact that last year some manufacturers, dealers, and their representatives entered the Convention Hall and did business on the floor without either taking space or desk room, and in order to do justice to those manufacturers and dealers who do contribute by taking space, he moved that it is the sense of the Executive Committee that no manufacturers or their representatives shall do business on the floor of the Convention Hall unless they take floor space or desk room. The motion was seconded by Mr. Bowersox and carried. Mr. Varney moved, seconded by Mr. Thuss, that the P. A. of A. employ a stenographer and furnish the Photographic Press the report of the Convention free of charge. Carried.

Moved by Mr. Kellmer and seconded

by Mr. Thuss, that the States be divided into four divisions the same as last year. Carried.

Referring to the large number of pictures sent for exhibition, and the large amount of work required to hang them, especially if sent loose and unframed, Mr. Kellmer made a motion, seconded by Mr. Varney, that every exhibit must be framed, with or without glass. Carried.

The prize list as adopted was printed in our last number.

RULES AND REGULATIONS.

Appointment of judges. Three judges to be appointed for each division by the Executive Committee; their identity to remain unknown until after the awards are made.

Three judges to be appointed for the awarding of the grand genre, the grand portrait, the foreign, and most tastefully arranged exhibit by the Executive Committee.

PERMANENT EXHIBIT OF P. A. OF A.

The exhibits winning the grand prize in the genre and A classes are to become the property of the Association for the purpose of forming a permanent exhibit.

President Hayes reported that owing to last year's successful convention the railroad accommodations would be greatly improved this year. Mr. Broadhead, President of the Celoron Amusement Co., was present and informed the committee that they would have a new theatre in which to hold the business sessions, away from the noise, thereby giving manufacturers and dealers better opportunity to do business. Mr. Broadhead also made a proposition to light the annex by electric lights, thereby giving a much improved lighting for the pictures on exhibition. Moved by Mr. Kellmer and seconded by Mr. Varney, that Mr. Broadhead's offer be accepted. Carried. Moved by Mr. Kellmer and seconded by Mr. Varney, that employés to gain admission on employés' fees, must present an official application (which can be secured from and be signed by the Secretary), and signed by a proprietor of a studio, a member of the P. A. of A. in good standing. Carried.

Moved by Mr. Kellmer and seconded by Mr. Thuss, that every exhibit must be framed and have a card on the front, giving name of exhibitor, class, city or town, county and State. Carried.

Moved by Mr. Varney and seconded by Mr. Thuss, that the price of dealers' desks be $12.50. Carried.

On motion it was decided to hold but one business session each day, thereby giving manufacturers and dealers more time to sell and display their goods.

The President appointed the following committees: Committee on Instruction, C. M. Hayes, Chairman; Committee on Medals and Buttons, W. C. Thuss, Chairmon; Committee on Grand Prize, G. W. Varney, Chairman; Committee on Entertainment, J. Will Kellmer, Chairman; Committee on Printing and Stationery, A. L. Bowersox, Chairman; Committee on Foreign Photography, J. Ed. Rösch, Chairman.

The President suggested that the Convention be known as "The Red-letter Convention." Moved by Mr. Bowersox and seconded by Mr. Thuss, that we extend a vote of thanks for courtesies received to Messrs. Camp, Abbott, Broadhead, and Maltby. Also, that we thank the Indiana, Pennsylvania, and Michigan Associations for their invitations to the Executive Committee to attend their meetings. Carried. It was suggested by Mr. Bowersox that a competent artist (a teacher in composition preferred) be engaged, who shall give a lecture on art and art principles; after a great deal of discussion on the subject, Mr. Kellmer moved, seconded by Mr. Thuss, that two lecturers be arranged for, one on chemistry and one on art, to lecture before the

photographers at the coming Convention. Carried.

After discussing the best means of making this the "Red-letter Convention," the Executive Committee adjourned to meet at the call of the President.

A. L. BOWERSOX,
DAYTON, O. Secretary.

A LETTER FROM THE TREASURER.

3937 DREXEL BOULEVARD,
CHICAGO, April 8, 1897.

MR. EDITOR: Will you again please make the customary call to photographers for membership fees and dues for the coming Red-letter Convention, quoting Article II., Sec. 4: "The annual dues become payable in January of each year, any member failing to pay the same prior to the adjournment of the annual meeting shall forfeit his right to membership, and can only be reinstated on payment of a new initiation fee, as in case of new members."

It is hardly necessary to state that prompt response will save delay at the convention hall, and greatly assist the Treasurer in his duties during the coming year.

Heavy exchange now being charged on all checks, remittance must be made by money order, postal note, express order, registered letter, or draft on Chicago.

Respectfully,
GEORGE W. VARNEY,
Treasurer, P. A. of A.

THE VIRGINIA CONVENTION.

The first annual convention of the Photographers' Association of Virginia was held at Richmond, Va., March 23d to 25th, and proved a profitable and successful meeting. President Plecker's address, welcoming the photographers in attendance, was devoted chiefly to the advantages of the Association and the uplifting of photography in Virginia.

The following communication was then read from M. A. Seed Dry-plate Co., Hammer Dry-plate Co., and G. Cramer Dry-plate Co.:

We, the undersigned manufacturers, make the following proposition to your honorable Association: We will pay to each State convention any proper charge said convention may elect for desk-room, provided such charge be not less than $25.00 to any manufacturer, on the following propositions: That no demonstrating be allowed at the convention except by those manufacturers who have desk-room, and that the photographers alone shall be allowed to exhibit pictures. We would suggest that it would be desirable to have the national convention one year and the State convention the next year, so as not to have one interfere with the other. Submitting this to your kind consideration, we remain,

M. A. SEED DRY-PLATE CO.
HAMMER DRY-PLATE CO.
G. CRAMER DRY-PLATE WORKS.

After some discussion, upon motion of Mr. Cheyne the proposition was adopted, and ordered that no dry-plate manufacturer be allowed to exhibit work. The report of the Secretary was read and adopted. The Treasurer stated that he had received some inquiries from amateurs as to their eligibility for membership. After considerable discussion the following resolution was offered by Mr. Binswanger, and adopted:

Resolved. In accordance with Article 2, that good amateurs, recommended, be admitted to membership in this Association under their class, with admission fee of $2.00 and annual dues of $1.00.

Upon motion a committee of three was ordered appointed to amend the By-laws relating to the amateur class.

The second session met at 10.30 A.M., Wednesday, March 24th. After the meet-

ing was called to order a paper was read from Mr. Abraham Bogardus, touching the usefulness of photography and its opportunities as a profession. We extract the following from Mr. Bogardus's remarks:

"Let every man feel that he is engaged in an honorable profession. Combining the chemical productions of the earth with the light which God has so bountifully dispensed, to portray the beauties of nature and the human face, is not a low occupation. Rightly conducted, photography is destined to become the peer of any of the so-called learned professions. As it advances and adapts itself to the many uses for which it is effective, the intelligent world will not, cannot, fail to acknowledge its value, and ask its aid in carrying on the varied vocations of this intelligent age. It has already come under the world's needs. It has outgrown the swaddling clothes, and is entering a sturdy manhood. The man who would attract patronage by bombast and loud promises will soon explode by force of his own gas, while the reliable man will retain the patronage of the intelligent public and hold the 'fort.'

"A good reputation can only be obtained by honorable dealing, fulfilled promises, anxiety to please and maintained integrity. These, combined with the necessary ability, will give the photographer as high a reputation as these qualities give in other professions. We cannot all be Washingtons, Franklins, or Jeffersons, yet each can be a man. It would be an easy matter to give the names of some men who, by straight-forward, honorable dealing, have gained a national reputation and a well-earned competency in the practice of photography. This can be done by others, and is well worth the effort. Whether the currency is to be of gold, silver, or greenbacks, see to it that you get your share, and give value for value. It is not wisdom for any man to stand aloof and wait for others. My brother, whether your influence is little or much, use it for photography's good; let each man work in his sphere, and you will be proud of your profession. The man who belittles or cheapens it, hurts himself, forfeits his standing in the fraternity and loses the good opinion of his fellows. When a man asks the patronage of the public, because of the cheapness of his productions, it is evident that they are not worth much. Keep up with the times, and advance in your photography as rapidly as photography advances. The laggard will fall behind and stay there."

The following officers were then chosen to serve for the ensuing year: President, Mr. Dean; 1st Vice-President, W. E. Eustler; 2d Vice-President, R. T. Phillips; 3d Vice President, W. Freeman; Treasurer, Mr. Archer; Secretary, H. V. Linebach, Roanoke, Va. (re-elected). After some discussion Norfolk was chosen as the location for the 1898 convention.

At the third day's session the Prize Awards were announced as follows:

Genré Class. First and second prizes, one gold and one silver medal, to A. H. Plecker, of Lynchburg.

Class A. First prize to A. H. Plecker, one gold medal. Second prize to J. T. Wampler, of Charlottesville, one silver medal.

Class B. First prize to R. T. Phillips, of Alexandria, one gold medal. Second prize to H. D. Murray, of Staunton, one silver medal.

Class C. First prize to William Freeman, of Norfolk, one gold medal. Second prize to W. E. Eustler, of Danville, one silver medal. Special prize to H. V. Lineback, of Roanoke, $2.50 gold piece.

Class D. No exhibits.

Class E. First prize to A. H. Plecker, of Lynchburg, one gold medal.

Class F. J. T. Wampler, Charlottesville, one silver medal.

Special Prize 1. One 8 x 15 background,

donated by Packard Bros. for the most meritorious exhibit, awarded to W. W. Foster, Richmond.

Special Prize 2. One 8 x 15 background, donated by Hetherington Scenic Studio, Chicago, for best lighting, awarded to Homeier & Clark, Richmond.

Special Prize 3. One Luxo Flash-Lamp, donated by W. P. Buchanan, Philadelphia, for the best photograph on exhibition, regardless of size or classification, awarded to Homeier & Clark.

Special 4. One gold medal to Davis Studio for its artistic display and superior effects in carbon.

Special 5. For best six retouched negatives on exhibition, awarded to Mr. H. W. Clark, one year's subscription to the *St. Louis and Canadian Photographer;* donated by that journal.

Special 6. One silver medal awarded to Cheyne, of Hampton, for neat and meritorious display.

Special 7. One silver medal awarded to H. H. Hunt, of Farmville, for neat and artistically arranged exhibit.

Special 8. Awarded to Homeier & Clark, of Richmond, one water-color, donated by the Sprague & Hathaway Co., West Somerville, Mass.

The Indiana Convention.

The Third Annual Convention of the Indiana Association of Progressive Photographers was held at Indianapolis, March 2d to 5th inclusive, under the presidency of Mr. Ben Larimer.

The sessions included the reading of several interesting papers, one of which, "Water in Photography," we give on another page.

The election of officers for the ensuing year resulted as follows: President, F. R. Barrows; First Vice-President, I. De Vos; Second Vice-President, J. Nicolson; Treasurer, George Holloway, Terre Haute; Secretary, C. R. Reeves, Anderson, Ind.

A canvass of the members on the advisability of holding the convention once in two years resulted in a resolution to continue the yearly meetings.

Two special features of the gathering were illustrated lectures by Mr. Forsythe, a local art critic, and Mr. C. Hetherington.

The club in connection with the Association, for the purpose of an exchange of members' work, was indorsed, and Mr. C. C. Pike was appointed secretary in charge.

The prize awards were announced as follows:

Grand Prize. The Jones Cup. This resulted in a tie between C. R. Reeves, of Anderson, and D. R. Gilbert, of Frankfort. Each gentleman is to hold the cup for six months.

Genre Class. Gold Medal, D. Gilbert. Silver Medal, F. R. Barrows.

Class A. Gold Medal, F. R. Barrows, Fort Wayne. Silver Medal, Geo. Holloway, Terre Haute.

Class B. Silver Medal, Geo. W. Smith, Elwood. Bronze Medal, W. Redding, Columbus. Root's 100 Studies, A. G. Arrasmith, Muncie.

Class D. Silver Medal, Vilmer Bros., Crown Point. Bronze Medal, A. Heimberger & Son, New Albany.

Class E. Silver Medal, Harmst. & Marquarst, Marion. Bronze Medal, Vilmer Bros., Crown Point.

Class F. Silver Medal, A. G. Arrasmith, Muncie. Bronze Medal, G. W. Smith, Elwood.

Class G. No entry.

Class H. Silver Medal, one entry, White & Nicely, Bloomington.

Class I. Silver Medal, George Parrott, Warsaw. Bronze Medal, Ed. Parry, Fort Wayne.

Class J. Silver Medal and Seavey Chair, C. C. Pike, Noblesville.

Bronze Medal and Hetherington Background, W. B. Cuyler, Greenfield.

Class K. Silver Medal, Wesley Hirsh-

burg, Anderson. Bronze Medal, Frank R. Gordon, Terre Haute.

Sweepstakes. 1st, Rough & Caldwell Accessories, F. R. Barrows, Fort Wayne. 2d, Globe Backgrounds, C. R. Reeves, Anderson.

Special. Gold Medal, F. W. Guerin, St. Louis, Mo. Silver Medal, P. McDonald, Albany, N. Y.

The Photographers' Club of New England.

This association, embracing the photographers of the New England States, announces the following *Prize List* for its first annual convention, to be held at Boston, July 28th and 29th of this year.

Grand Prize, The Hastings Cup. Two genre pictures, 11 x 14 plates or larger, subject to be chosen by the photographer, the title to be inscribed on each picture, to be framed or not, as the exhibitor may decide.

Class A. Six or more portraits, pictures to be from 11 x 14 plates or larger. First, 8 x 10 Royal Portrait Camera Box, value $50. Second, one case 20 x 24 Climax plates. Third, diploma.

Class B. Twelve or more portraits, pictures to be larger than cabinets or smaller than 11 x 14. First, Darlot No. 3 Anastigmat Lens, value $45. Second, one case Stanley 11 x 14 plates. Third, diploma.

Class C. Twenty-four portraits, cabinets or smaller. First, Darlot 4 x 4 Portrait Lens, value $35.50. Second, 8 x 15 Extension Packard Background. Third, diploma.

Class D. Competition limited to cities of 15,000 or under. Eighteen portraits, 11 x 14 plates or some of them smaller. First, 8 x 10 Extra Rapid Lloyd Special Lens, value $38.50. Second, case 11 x 14 American plates. Third, diploma.

Class E. Competition limited to cities or towns of 5000 or under. Eighteen portraits, 8 x 10 plates or some of them smaller. First, Semi-centennial Camera Stand, value $25. Second, case 5 x 8 American plates. Third, diploma.

Class F. Competition limited to towns of 2000 or under. Twelve or more portraits, any size. First, Voigtlander Euryscope Lens, No. 00, value $37.50. Second case 5 x 7 Stanley plates. Third, diploma.

Class G. Landscapes, with or without figures. Six or more from 6½ x 8½ plates or larger. First, 6½ x 8½ View Camera Box, value $25. Second, Thornton-Pickard Shutter. Second, diploma.

Class H. Marines. Six or more 6½ x 8½ plates or larger. First, case 11 x 14 Climax Plates. Second, diploma.

Class I. Architectural. Six or more from 6½ x 8½ plates or larger. First, case 20 x 24 Stanley Plates. Second, diploma.

Class J. Portrait groups. Two pictures from 8 x 10 plates or larger. First, case 14 x 17 American plates. Second, 25 x 30 gold portrait frame. Second, diploma.

Class K. Special prize for honorary members in the United States and Canada outside of New England. One portrait from 11 x 14 plate or larger. First, suitable work of art. Second, case 8 x 10 Climax Plates. Third, diploma. Two dollars must accompany the entry for this class, in order to make the exhibitor an honorary member and eligible to competition.

A diploma for the most tastefully arranged exhibit.

Entries must be made to F. Flodin, Secretary, 476 Main Street, Worcester, Mass., prior to July 14th, as no space will be assigned after that date.

Geo. H. Hastings, Pres't,
34 Haywood Place, Boston, Mass.

The Photographers' Association of Nebraska meets at Omaha, May 4th to 6th. The Iowa Association at Des Moines, May 11th to 13th. The date of the Missouri Convention is August 10th to 12th at Pertle Springs.

THE NEW GOERZ SHUTTER.

THERE has been nothing really new in shutters for a considerable time, and the advent therefore of a really new and in every detail most excellent shutter is entitled to more than passing notice.

A shutter which can be fitted between lenses having but slight separation between front and back combinations, and which still retains every provision for rapid exposures, combined with simplicity of mechanism, is found in the new Sector Shutter introduced by Mr. C. P. Goerz, of our city.

The new shutter is neatly made, occupies a very small space, and being made of aluminium, its weight is reduced to a minimum. The opening and closing of the lens is accomplished by segments situated in the plane of the diaphragm, opening from and toward the centre; all moving parts are closed in and are dust-proof.

To those who have objected to shutters of iris, segment, or diamond principle heretofore, on the ground that in opening *deliberately* to the full extent and then similarly closing, no definite diaphragm could be correctly said to have been used, since every opening from the smallest to the largest and back was brought into play during the exposure), the new Goerz shutter will be seen to overcome this very serious objection, as it opens with *extreme velocity* without shock or jar, remains open at the required diaphragm the indicated time, and then closes with equal rapidity.

The segments which form the shutter also form as a diaphragm, and can, of course, be adapted to any aperture, a most convenient feature, which entirely does away with the annoyance of extra stops.

Those who prefer to keep the slide drawn in the holder will welcome the feature in this shutter of absolute tightness, it being guaranteed not to leak light even when setting it.

The speed ranges from $\frac{1}{150}$th of a second down to very slow instantaneous, while extended time-exposures are readily made by means of a bulb. The various speeds indicated on the time-dial are absolutely reliable, and are not changed by the use of larger or smaller diaphragms, a feature specially desirable for scientific work where the accuracy of time of exposure is a necessity. The new shutter, illustrated herewith, is simple in manipulation, has every range of speed that will ordinarily be required, and is, considering its worth, sold at a very moderate price. Mr. Goerz also fits lenses of other make to the shutter at a slight additional cost. The new sector-shutter can be obtained in three or four sizes. Although specially adapted for use with the well-known Goerz Anastigmats, it can be used with any lens proportionate to the various sizes.

A shutter having such marked advantages and improvements approaches the ideal and commands the admiration of all who see it. Mr. Goerz is to be congratulated upon his success. There is no doubt whatever but that his work in the interest of photographers, both here and abroad, will be recognized and appreciated in a substantial manner.

COLOR PHOTOGRAPHY BY CHASSAGNE'S NEW "RADIOTINT" PROCESS.

MR. R. A. ANTHONY, of the firm of E. & H. T. Anthony & Co., has just returned from Paris and London, whither he went to secure for the Americas the new "Radiotint" color process in photography, described in the article at page 100 of our March issue. He has brought with him from M. Chassagne's laboratory quite a collection of photographs colored by the method, which are to be seen at the warerooms of Messrs. Anthony & Co. One of these prints was produced by Mr. Anthony himself in twenty-five minutes, and shows conclusively what may be done by one who is entirely unfamiliar with practical photographic manipulation. Another of these prints, a portrait of the Czar of Russia, says the *Bulletin*, "shows very remarkably the color and effect of real life, the flesh tints being particularly good, and the drapery perfect, both in color and tone-rendering. A landscape, rich in brilliant lighting and strong in deep shadows, with all the various shades of green in the foliage, intermediate tones and reflections in the water, is exquisite, and the collection is well worth the effort required to view it."

Mr. Anthony tells us that materials for the working of this process will be available about July 1st of this year, and at a cost within the reach of all; broadly speaking, 10 cents per print being the outside limit, exclusive of the extra cost of the specially dry plates, which will be somewhat higher than the ordinary plates. It is not necessary to print a large edition in order to bring the cost per print to this figure, as an outlay of probably $5 in the beginning will be sufficient to produce fifty prints or more, and they may all be made from one negative, or may be divided between any number, if desired. Messrs. Anthony & Co. invite all interested in this new application of photography to visit their offices and examine for themselves the results obtained, feeling confident that an examination "will demonstrate to the most skeptical the fact that at last has been achieved a practical method of reproducing the colors of nature by purely photographic and chemical means and at a commercial price."

In a recent number of the *Optician*, London, there was printed an unsigned communication purporting to give the specifications of a patent taken out "in the names of Messrs. Dansac and Chassagne." This communication, which was widely copied in other British papers, gives the method of preparing and using the various solutions required by the process. We do not reprint these details here for two reasons. First: The inventors have not patented their method, nor will they do so. For obvious reasons the process, which has already been disposed of as far France, Great Britain, and America are concerned, must remain the secret of those who have paid immense sums of money for it for commercial purposes. Hence, we believe the alleged process printed by our contemporaries to be a fiction. If it *is* taken from the specifications of a patent, then our information leads us to conclude that it is not the process by which M. Chassagne produces his photographs in colors.

Furthermore, the journals which have reprinted the alleged process comment upon two vital defects in their report, viz., that no mention is made of the preparation of the sensitive plates necessary to produce the pictures in color; and second, that the combinations which form the solutions are chemical impossibilities. We therefore refrain from wasting space on useless information.

We have examined the colored pictures

on exhibition at Messrs. E. & H. T. Anthony & Co.'s warerooms with much interest. They are remarkable in many ways, the coloring, contrary to our expectations, being pronounced in tone. It is understood that the process will be widely demonstrated during the next few months, so that at the forthcoming convention at Celeron we may see photographs in colors made in American studios.

EDITOR'S TABLE.

MR. ALFRED STEIGLITZ writes in regard to the GOERZ Double Anastigmats:

"DEAR MR. GOERZ: Some time ago I promised to give you a report on my experience with your lenses. Not wishing to give my opinion without a conscientious test, you have not heard from me sooner. After a continued use of two of your lenses (one a 12 inch and the other a 7 inch) for about two years, it is with great pleasure that I am enabled to say that they have far surpassed your claims and also my expectations. Some of the results obtained with them were nigh impossible heretofore. The covering power and speed of the lenses with full opening are not approached by any other lens that may have passed through my hands.

"For all around hand-camera work they are certainly without equal, and it is in this special branch of photography that I have given them the severest test, with such surprising results. At my earliest opportunity I shall be pleased to send you a few samples of the work."

MR. G. GENNERT, 24 East Thirteenth Street, New York, announces a new series of Montauk Cameras for 1897. The series consists of eight different styles and diverse sizes of each style, the complete series forming a beautiful display. No. 1 Folding Montauk has been reduced in price from $30.00 for the 4 x 5 and $40.00 for the 5 x 7, to $28.00 and $35.00 respectively, and is a finely finished piece of apparatus. It has been decreased in size almost 20 per cent. from last year's, and is fitted with an ingenious shifting front and swings. These conveniences are simple and efficient in manipulation. The quality of the workmanship in all the instruments is excellent, and the strong contrast between the rich brass work and dark-red mahogany wood, with black outside of seal-grained leather, makes a handsome combination. We may also mention a line of Cycle Cameras, extremely compact, made in sizes 4 x 5 and 5 x 7. These are quite as attractive as those above referred to, and will be preferred by cyclists. The camera itself holds but one plate-holder, which may be instantly interchanged with a roll-holder when desired, but a case is provided into which the camera and three holders may be slid side by side. This case, made of fine black sole leather with hand and shoulder straps, lined with purple plush, is as handsome as the camera. The price of the Cycle Camera with rack and pinion movement is $25.00 for the 4 x 5 and $33.00 for the 5 x 7.

There are other styles of both cycle and hand cameras at much lower prices, all fitted with the celebrated Gundlach rapid symmetrical lenses, the latest pattern of time and instantaneous shutter with pneumatic release, speed indicator, trigger release, and iris diaphragm. These attractive goods are worthy of special attention from amateur dealers who are looking for a fine line of cameras to handle during the coming season.

THE EASELETTE is a novelty just introduced by the A. M. COLLINS MANUFACTURING CO., Philadelphia, which will commend itself to all who see it. It is designed to furnish a cheap and convenient support or stand for displaying photographs, and must be seen to be properly appreciated. The EASELETTE is a piece of cardboard peculiarly shaped and pierced so that a push of the fingers transforms it into a miniature easel for the support of a picture. It will prove a ready help to the photographer in displaying his work of the smaller sizes. All dealers have them.

MESSRS. JAS. H. SMITH & CO., 311 Wabash Avenue, Chicago, offer as one of their leading specialties a *Studio Register*, which provides ample space for every detail concerning sitters and their orders. A sample leaf will be sent to any photographer asking for it.

THE NEW PRICE LIST of the papers and specialties of the NATIONAL PHOTO PAPER & CHEMICAL CO., of Springfield, Mass., is the daintiest thing of its kind we have seen. It was gotten up by Mr. WILL H. BRADLEY, and printed at the *Wayside Press*.

Among the specialties announced in its pages is *Neutral Litmus* paper, which indicates either acids or alkalies, according to the nature of the solution tested. All photographers should possess this price list.

We desire to draw special attention to the *National Salon* announced by this company in our advertising pages. In this competition many valuable prizes are offered, the classes being arranged to give all progressive workers a fair opportunity. Full particulars are given in the announcement.

THE PHOTO-CHROMOTYPE ENGRAVING CO., 719 Vine Street, Philadelphia, has received the following letter from Mr. R. E. WESCOTT, Lowell, Mass. It echoes a very general opinion of the excellent work turned out by this house: "I desire to express to you my hearty appreciation of your rendering of my photographs of 'Dante' and 'Marguerite' in the April issue of WILSON'S PHOTOGRAPHIC MAGAZINE. I have been in much doubt as to the possibility of reproducing the 'Dante' without losing all the delicate gradations and values, and must say that I am surprised as well as pleased to see how well you have preserved them."

Photographs of Celebrities, by Sarony, is the title of an unusually interesting little catalogue issued by the SARONY PUBLISHING CO., 11 East 16th Street, New York. It is a reference-book which professional photographers will do well to have on their shelves.

THE PHOTO BUTTON is Mr. H. A. HYATT'S (St. Louis) latest specialty. Another variety is the Willyerd Button. Full particulars may be had on application to Mr. HYATT.

THE GUNDLACH OPTICAL CO., Rochester, N. Y., has taken over the camera stock of the defunct MILBURN KORONA COMPANY, and is clearing the well-known Korona Cycle and C. Korona Cameras at bargain prices. A circular of information may be had on application. In a recent conversation with Mr. TURNER, of this enterprising company, we were pleased to learn that the Turner-Reich anastigmat meets with wide appreciation, the sales having largely increased in the past year.

MESSRS. BENJ. FRENCH & CO., Boston, Mass., American agents for the Euryscope and Collinear lenses, of VOIGTLANDER & SON, advise us that the prices of the Collinear have been reduced in consequence of an increased demand for these noteworthy instruments. The new price list, showing reduced prices, can be had on application to Messrs. FRENCH & CO.

SEED'S matt-surface and carbon-finish positive films are quietly but surely reaching the popularity they deserve. Those of our readers who have not yet used these films should send to the M. A. SEED D. P. CO., St. Louis, Mo., for particulars.

C. C. ROUGH PLATINOTYPE PAPER, manufactured by WILLIS & CLEMENTS, Philadelphia, is undoubtedly the most artistic printing paper on the market for photographers cultivating high-class trade. The special offer made in Messrs. WILLIS & CLEMENTS' advertisement on another page is therefore worth attention.

MR. . JACOBI, for almost twenty years manager of the technical branch of the F. GUTEKUNST CO., of Philadelphia (Process Department), has associated himself with the ALBERTYPE CO., 15 Laight Street, New York.

MESSRS. ROSS & CO., 111 New Bond Street, London, have just published a capital little booklet on the Electric Arc Light for Lantern Projection, with a description of the Ross-Hepworth Arc Lamps and other lantern specialties. The pamphlet may be had free on application.

MR. G. GENNERT, of our city, reports a rapidly increasing demand for his supplies for carbon printing. His *brochure* on this subject, issued free of charge to all who ask for it, is a very concise manual of the process.

THE FRANKLIN INSTITUTE OF THE STATE OF PENNSYLVANIA.

Secretary's Office, Philadelphia, March 18, 1897.

MR. JOHN CARBUTT, Wayne Junction, Philad'a,

DEAR SIR: I am just now in receipt of the framed photograph which you made as an incident of your address before the Institute on February 17th. It is a most admirable piece of work, and in fact the best of the kind that I have seen, and I am sure it will attract a great deal of attention. I will place it where it can be seen and admired.

Thanking you for this gift to the Institute, I beg to remain, very truly yours,

WILLIAM H. WAHL,
Secretary.

A COMPANY has been organized at Vailsburg, N. Y., to manufacture a self-toning print-out paper.

A $100 CONFEDERATE BILL recently received from Mr. W. H. PARTRIDGE, one of Boston's popular photographers, displays on its reverse the following curious

PHOTOGRAPHIC PROCLAMATION.

PICKED PEAS PLENTIFULLY PROVIDED.

Patriotic, Practical, Prudent, Perpendicular Parental, People Please Ponder.

Proud Posterity Profoundly Prizes Portraits Preserving Past Progenitors' Peculiar Personal Physiognomies.

PARTRIDGE'S Pleasant Photographic Parlors Present Perfect Photo-typical Possibilities.

PARTRIDGE Politely Poses Persons, Picturesquely, Properly.

PARTRIDGE Possesses Peculiarly Progressive, Photo-chemical Processes.

PARTRIDGE Proceeds Punctually, Placidly, Perseveringly, Perpetually Producing Permanently Pleasing Photographs.

Petite Progenies Patiently Pictured.

Portly Ponderous Patrons Proportionately Portrayed Provided Plethoric Purses Prevail.

Perambulating Peanut Politicians Possessing Parboiled Perceptions Permitted Pro-rata Privileges.

Pick-Pockets Photo-Paralyzed.

Perfumed, Pur-blind, Plighted Partners Promised Particular Phiz-ological Preparation—Police Protection.

Picnic Parties Promiscuously Petted.

Preliminary "Partial Payments" Preferred.

PARTRIDGE,

Progressive Photographer.

PORTRAITS BY F. M. SOMERS. In a recent issue of the *Four Hundred*, a Chicago society journal, we find a number of engravings from photographs by F. M. SOMERS, of Memphis, Tenn., together with an appreciative notice of Mr. SOMERS as a portraitist. We congratulate this worthy artist upon the prominence given to his excellent work.

ONE of the best photographically illustrated weeklies of the Pacific Coast is the San Francisco *Wasp*. Its pages are crowded with interesting and beautiful engravings from photographs by the leading Californian photographers, such as THORS, TABER, and the ELITE STUDIO. We notice the portraits of Mr. THORS as being full of promise, carefully and capably managed in every detail.

THE JEX BARDWELL HOME.—We confess to some surprise and disappointment that the project started at the last national convention, to raise funds for a memorial home for the veteran JEX BARDWELL, does not seem to meet with the prompt response expected. The value of Mr. BARDWELL'S services in the past to the fraternity, amateurs as well as professionals, is by this time well understood, and we think the fact that he now finds himself in need of a helping hand to smooth his latter years should raise up for him friends wherever photography is practised. We will be glad to receive contributions for the proposed home, no matter how small they may be.

Isotypie, a new half-tone process, by COUNT VICTORIO TURATI, Milan, is the title of a little leaflet, issued at 10 cents, postfree, by PENROSE & Co., 80 Upper Baker St., W. C., London, Eng.

MESSRS. CHAS. COOPER & Co., 194 Worth Street, New York, announce their *Chemical Price List* for May. This is one of the indispensable things to the progressive photographer, informing him of prices current month by month.

WARM BLACK TONES ON LITHIUM PAPER.—A few days ago we received from KIRKLAND'S LITHIUM PAPER Co., Denver, Colo., a specimen portrait on their new matt paper toned to a pleasing warm black. It was toned in the following manner:

Wash the prints through several changes of water to remove all free silver, and tone in any gold bath (slightly alkaline) until the whites of the prints are clear. Then transfer to clear water. When all are toned put them through the following bath:

Water	32 ounces.
Sulpho-cyanide of Ammonium	¼ ounce.
Salt	½ "
Alum	¼ "
Gold	4 to 6 grains.

Tone till all warmth is out of the shadows, and immerse the prints directly in

Hypo	2 ounces.
Water	32 "

Fix ten to twenty minutes.

This paper, toned by above formula, gives perfectly pure whites, with rich shadows, and a perfect matt surface suitable for coloring or bas-relief work. Do not carry the toning in the first bath further than a cherry, nor wash between the sulpho-cyanide and fixing baths, as it is liable to cause a pink tint in the half-tones.

WILSON'S PHOTOGRAPHIC MAGAZINE.

EDITED BY EDWARD L. WILSON.
JOHN A. TENNANT, Associate Editor.

VOL. XXXIV. JUNE, 1897. No. 486.

ON THE GROUND-GLASS.

NOT for a long time has *The Ground-Glass* focussed so many interesting things as have appeared during the past month. First and foremost is the "Red Letter" Convention of the Photographers' Association of America, to be held at Celoron, on Lake Chautauqua, N. Y., July 12th to 17th inclusive. From what *The Ground-Glass* has seen of the extensive preparations made by the officers of the association and photographers in all parts of the country, the "Red Letter" Convention will surpass in usefulness and attractiveness any previous event of the sort held in America. It will be a truly national affair, and every photographer worthy of his profession should make an earnest effort to be represented in person and by his best work. As usual, a full report of the event will appear in this MAGAZINE, but the innumerable advantages and good things offered can only be properly appreciated by actual participation. On other pages are given a manifesto from President Hayes, and information concerning railroad and hotel rates. These should have careful reading.

The Ground-Glass has two suggestions which deserve attention: First, the time has come when the National Association should do something toward affiliating the State associations with itself. Union is strength, and a federation of kindred bodies will always accomplish more than scattered societies. Cohesion is one of the great laws by which nature does her mighty wonders, and the associations will do well to observe the advantage of this principle. To take up a single point as an instance: It is of less importance to the fraternity that the State associations be represented at the national convention than that the best features of the latter should be incorporated in the meetings of the State associations. There is no good reason why the best work shown at Celoron next July (and seen there by possibly a tenth part of the profession) should not be made into a permanent exhibit to be circulated among the State conventions of the succeeding year. The exhibition of such a collection would not only serve as a practical bond between the State and National associations as well as adding to the importance of the State gatherings, but it would add a hundredfold to the value of these latter to their members.

The other suggestion concerns the Jex Bardwell Home Fund proposed at the Celoron convention of 1896. This is a matter which should be given prominent place, and the officers of the association of 1897 will honor themselves and the fraternity in proportion to their earnestness in pushing this fund toward completion be-

fore the convention adjourns. The great services rendered by the veteran Jex Bardwell, by which every photographer is enabled to practise his profession free from troublesome taxation, should have generous recognition from the craft. We hope that a vigorous appeal will be made concerning this fund from the platform, and that a box for the contributions of those who attend the convention will be placed on the speakers' platform. In any case the members of the committee in charge of the fund, Messrs. G. Cramer, Orville C. Allen, Geo. Steckel, J. Ed. Rösch, and Edward L. Wilson, will gladly receive contributions.

The Ground-Glass focusses with pardonable pleasure on the widespread satisfaction and admiration with which the May number of this MAGAZINE was received by the fraternity. From cover to cover it was made to help, to encourage, and to inspire the earnest ones in our profession, and we are glad to know that it does all and more than these. Let the good work go on—the future still holds forth unbounded possibilities—and *The Ground-Glass* has been fitted with a kinetoscopic attachment, that nothing may escape.

As fast as the May days came and went *The Ground-Glass* was kept busy focussing on an unending procession of photographers coming and going about the city to get pointers for their new season's business. This custom, which grows in popularity year by year, is one to be commended. New York, with its two hundred photographic studios, and its many fine galleries of art, is in itself a convention worth coming from far to see. But *The Ground-Glass* would like to see the visitors more wide-awake as to the art opportunities. It *is* important to see what is passing photographically, but the sources of the successes witnessed should not be neglected. We refer to the exhibitions of paintings and other works of art which abound in our city. These have no more frequent visitors, or more eager observers, than our most famous portraitists, and the out-of-town photographer will do well to include these galleries in his itinerary.

During a May-day excursion among our city studios *The Ground-Glass* focussed upon a bit of photographic co-operation which gave pleasure and profit to many in its development. After the Bradley-Martin fancy dress ball, which aroused public interest early in the year, Mr. B. J. Falk, of our city, made a collection of costume pictures of those who had participated in the famous event. A set of these pictures was loaned to Mr. Stein, of Milwaukee, and, when exhibited at his studio, brought crowds of visitors. The set was afterward exhibited in a Buffalo studio, then in a Rochester gallery, and, when last heard of was being displayed in the art-rooms of the MacDonald Studio at Albany, N. Y. Thus Mr. Falk's pictures were generously used by his co-workers as a means of attracting patrons and persuading business. There is no reason why many of the grand collections of photography shown at our conventions should not be circulated and do similar missionary work. It would be a good idea for the authorities of the associations to make a rule that the pictures exhibited should become the property of the association each year. A special committee could be appointed to take charge of them and loan them for stated periods to photographers willing to pay for the privilege of exhibiting them in their studios. It would be necessary, of course, to divide the collections, so that a photographer could show simply the class of work which would most help his business, and at a reasonable expense. The opinions of our readers on this suggestion will be welcome.

PHOTOGRAPHIC INDUSTRIAL CO-OPERATION.

BY M. HERBERT BRIDLE.

WHEN we review the course of any of the world's great industrial operations we see them, in the beginning, emerging from the minds of individuals to whom the ideas upon which the industry was founded first appealed. In his efforts to put his idea into practice it was necessary for the "inventor" to call to his aid others who enabled him to extend his idea and make it of practical value. As these helpers became better acquainted with the ideas of the inventor, and with him learned how to apply them and extend them, they naturally sought for some method by which they might reap a larger share of the returns (money) from the new industry, than they gained as mere helpers of the original inventor. Hence, some of the first helpers started out for themselves, duplicating, more or less, the practices of the inventor and adding thereto what new ideas had come to them. This process of industrial development proceeds until we see a multitude of small industrial operations scattered over the country, all practically competing for the same market and supplying the same article. Increase of trade brings, of course, cheapening of the original materials required by the industry, because of the larger demand, and for a time the proprietors of the various establishments can get a price for this article large enough to give them a good profit. But as the industry extends so the number of people dependent upon it for a living increases, and as a large percentage of these seek to establish industries of their own, a time comes when the only foothold in the world of business is by reducing the selling price of the finished article. The "raw material" and the workman's wages are already down to the lowest notch, and nothing is left to attract buyers but to reduce the selling price. This is done, and as a result all establishments of the same kind will, in the end, have to come to practically the lower price, or give up the fight for trade. Special circumstances and fashion may, for a time, help some of the establishments to hold up their prices; but in time all will have to give in to the reduced prices. Thus a period of "cutting prices" supervenes until the weaker are driven out of the business and the stronger ones unite to preserve the selling price at a paying figure. If they hold them too high, other workers again come in, and by competition cut down the price and so break the combination. In order to counteract this last defect several of the establishments unite to form one concern, and, by the specialization of parts of the industrial operation, are enabled to make a still further saving on the cost of manufacture. For where there were three or four establishments to run, there is now but one, and the expense required to operate the smaller concerns will run the greater. Thus we have the trust, an accomplished fact, with all its attendant benefits—of which there are many—and its evils—of which there are more.

Through all of the conditions here outlined has the photographic business passed except the last. And if an improved method of co-operation is not introduced, we shall yet see a "Photographic Trust." For there is "big money" in the photographic portrait business for a capitalist who will undertake to run it on the "Trust" basis. There are millions of capital invested in industrial operations today that are content with 3 per cent. interest, and there is 15 to 20 per cent. in this photographic portrait business for the right kind of men with large enough capital.

Now one of the methods by which the evils of the present trust scheme might be obviated and most of its benefits be retained was in my mind when writing the answer to the question propounded by the editor of this MAGAZINE, and which has served Mr. George B. Sperry with a text for his excellent article on "A Trade Printing-house," on page 185 of the last number.

In his article Mr. Sperry "goes even further" and suggests that *one* printing-plant could supply all the galleries of one city. This is true. But in large cities it would be a hard matter to induce all the galleries to unite in one concern, while it might be quite possible to have them do so in several, and still gain the benefits of co-operation. I do not think that any reasonable man will deny that the benefits Mr. Sperry enumerates, and which I had in mind, can be gained by concentrating the present numerous printing-rooms into a few well-equipped and economically managed establishments. This will seldom be denied, but what is usually objected to is, that some galleries will gain the benefit and the others be put at a disadvantage. This has unfortunately been all too true in many efforts at co-operation, and it remains to be seen if photographers cannot think of some plan by which the benefits may be increased and the disadvantages be lessened.

We will assume that it is agreed that the scheme would "pay," so far as the improvement of work and saving of expenses are concerned. How, then, shall the galleries be organized to establish such a co-operative plant? At the start we can well see that it must not be a private money-making concern, for then the owners will cater to and favor the larger galleries, who are the ones that least need such a scheme. It must be a joint stock affair, where each gallery pays its share of the running expenses, wages, and material in proportion to the amount of work it has done for it. The galleries in the scheme should elect directors, and the directors a manager, who should be the responsible head of the concern; but he should not be the proprietor of a gallery. The object in view being to *save* money for each gallery, the charges against each gallery for work done should be so arranged as not to allow of any profit, and thus offer no inducement to any one to go into the scheme to *make* money. This can readily be done by grading the quality of work turned out, the galleries wanting the best, or any extras, being charged with extra cost of material and wages due to the higher class of work required. It would be too long a matter to enter into details as to the starting of such a scheme in operation, but I shall be glad to go into the subject further if desired. The responsibility for the success of the scheme would rest equally with each gallery, and if the effort was for *mutual* advantage, instead of selfish benefit, all would be equally benefited. The management must be free from all dependence on the favor of any gallery, and responsible solely to the directors, to be chosen from the proprietors of the galleries going into the combination. Strict records should be kept, to which any gallery should have the right of access, the whole aim being to make the scheme co-operative.

As a result of such a scheme, money would be saved and better work turned out by *all* the galleries. All classes of work could be handled by all the galleries, thus increasing the demand for good work, and so benefiting the trade of the large as well as the small galleries. The larger galleries, saving the most, would in the end gain most. But the main benefit would be derived from the fact that, having put such a co-operative scheme in force, a really co-operative feeling between the different galleries would be established on a business, as well as a sentimental basis, and the tendency to cut prices or take

unfair advantage of each other be reduced to a minimum. By such a plan as I have indicated, all the good features of the "Trust" would be retained, while the independence of the galleries in all respects would reduce the chance of combinations to control the business to the disgust of the public and ruin of the business in the end.

If such a scheme be put in force the thing to guard against at the start would be what Mr. Sperry seems to think would be an improvement on my suggestion, *one* combination to a town. I think one co-operative plant to not more than ten galleries would be better. Gradual development is best, and we would have to guard against over centralization. In a town containing three to five galleries, one concern would be better than uniting three such towns in one concern. Where there were, as in Philadelphia, over a hundred galleries, eight or ten concerns would do well, and after a time, a gradual combination as the scheme worked more easily. Too great a concentration in the beginning would defeat the object of the whole scheme, which is co-operation and not consolidation.

All the operations, including retouching negatives, and everything, to the finishing of all kinds of pictures ready for delivery, could in the end be profitably included. But at the start it might be best to only include photographs of all kinds, and take in enlargements, crayon, and color work, framing, etc., when each concern was well on its feet.

"Oh," someone will say, "everybody would know all about my business and how much I was doing." My friend, they know now, even if you think they do not. The army of salesmen and demonstrators spread such news, if you want them or not, even when they think they are keeping things to themselves. Don't you know what background so and so has bought, or what plates he is using, and card stock, etc., and how well he is making out this spring. If you do not, it is because you do not keep your eyes and ears open, while others do. And what does it matter if you do know it? Or if your competitor knows it about you? You cannot get at each others' trade so long as you don't know their patrons, and a co-operative scheme is not of interest to the *patrons*, except as it enables you to give them better work. So don't be afraid of co-operation because of the "other fellow," if co-operation is a good thing *for you*.

I trust our Editor will invite letters on this subject, and that it will receive the consideration it merits on all hands.

[We will be glad to publish the opinions of our readers as to the plan proposed. Communications intended for the July issue of the MAGAZINE should reach us not latter than June 15th. As an incentive to the discussion, we offer a year's subscription to the MAGAZINE to the writer of the most practical letter on the subject.—ED. W. P. M.]

PAPERS FOR PROFESSIONAL PHOTOGRAPHERS.

BY JOHN A. TENNANT.

XXVI. SCHOOL AND COLLEGE WORK.

JUNE is a month which should be printed in red on the photographer's calendar, for it is the month of "commencement" days, and therein the enterprising photographer may find a profitable opportunity for business. Schools and colleges, big and little, are breaking up for the midsummer holidays, innumerable "classes of '97" are going out into the world of

work, and thousands of young people are about to sever ties and associations which will be looked back to as among the happiest of life's memories. What a harvest for the photographer!

Necessarily the work of this kind which can be undertaken in June is confined to the schools and smaller colleges. The photographic work of the great colleges commences in March or April, for delivery early in June. But a great deal of business may yet be done by those will set about it quickly and intelligently. Let us look at it from a practical standpoint, separating it into its various divisions. First. There is the individual portrait work where colleges are concerned. By making a special style at a persuasive rate the photographer should, with some personal effort or a friend at college, be able to draw 20 per cent. of the students of the local colleges into his studio. A few hundred typewritten letters, obtainable in *fac simile* form at a slight cost, may be used with advantage in this effort. If the photographer has already been largely patronized by the local students he may perhaps most profitably confine himself to getting duplicate orders. The chief thing, however, is to make sure that every student is reminded early in the month of the photographer's facilities and of the appropriateness of being photographed at this time.

Second. There is the group work, which includes both schools and colleges. The many small societies, clubs, and classes formed to keep students together at all places of education, provide ready-made arguments by which the photographer can secure patronage. It goes without saying, almost, that every society should have its group pictures before being even temporarily disbanded. The principal affair of moment here is to reach the right person in each instance. This once determined, the photographer should lose no time in pushing his interests forward on the plea of getting the pictures completed before the vacation begins. In some cases, as in the public schools, where the pupils are wholly drawn from the locality, the photographer may, if he cannot organize things so as to secure a definite order, arrange for the work to be done as a speculation. Thus, by properly approaching the principal of a school, he may get permission to make groups of the various classes, and take his chances of selling sufficient copies to repay himself for the effort. Some of my readers will perhaps think this an undignified proceeding; but business is business, and one can have too high a notion of one's importance in the world. Of course, a definite order should be sought for; but this plan may succeed where that will fail. When speculative school-group work is done an attempt should be made either to secure the names and addresses of the scholars, or a business card should be distributed to each, so that the photographer may know where to find his prospective patrons or they to reach him.

Finally. We have the school or college itself as a source of business. The photographer should provide, beforehand, a selection of pictures, of various sizes, of the schools or colleges in his locality. By displaying these and his address in some conspicuous place where the students or scholars ean see them, a fair proportion of sales may be looked for. A great deal can be done by securing a little co-operation from some one officially connected with the schools. In the letter already referred to, as to be sent to the local college students, a *postscript* should be added to draw attention to the desirability of possessing photographs of their own or special rooms about the college. This, of course, applies only to colleges where students have home accommodations within the confines of the college.

It is hardly necessary to say that all school and college work done to order

should be paid for before the delivery of the pictures. The reasons for strictness in this detail are obvious. After a good deal of experience in this work I know of no debts so difficult to realize as those contracted by college men and women when they are left unpaid by students leaving the locality. Therefore, to sum up: grasp the opportunities of the month, make every effort to turn them to your advantage in a business way, secure definite orders wherever possible, calculate your chances carefully before entering upon speculative work, and be sure to get cash for all work before delivering it to your patron. The convention comes next month.

THE RED LETTER CONVENTION.

A COMMUNICATION FROM PRESIDENT C. M. HAYES.

To profit by the lessons of yesterday will be the aim of the officers of the Photographers' Association of America at this year's convention.

While the success of the convention of last year was beyond the expectations of all, yet the experience which was gained there should be the foundation upon which to build a larger, broader, and more successful convention for 1897.

There always has been a demand for criticism—just criticism. There is a demand for criticism by an artist and purely from an artistic point of view; from one whose ability is unquestioned, who is practical, and whose experience is of such a nature as to permit of his giving a criticism with a lesson, and not a superficial, shallow talk.

While it has been my pleasure to be present at two conventions where so-called artists gave their opinions, I never have listened to a person more fitted to the task than the gentleman who has consented to address the coming convention. I consider his selection most fortunate. That person is Prof. A. H. Griffith, director of the Detroit Museum of Art. His fame as an artist and lecturer is wide. He needs no introduction to the photographers who attended the national meeting in Detroit or the convention of the Michigan association last January. It is not within the gift of all to be able to tell how a pleasing picture is produced, or to dissect one to such an extent as to know why it does not please. Prof. Griffith possesses this happy faculty, and his lectures before the coming convention will be among the most interesting features.

The number of pictures in each class has been cut down this year, thereby insuring an exhibition of gems of the work of each artist, and eliminating the usual "fill-ins." Two or three new classes have been added, which will be interesting and will undoubtedly bring out a number of new exhibitors and many surprises. The medals will be large and of an exquisitely unique design.

A lecture on the chemistry of the negative and print, that will be plain and practical, will be among the features of the convention. The life-membership prize has aroused deep interest among the famous prize winners who had decided to make non-competitive exhibits at future conventions, and it is apparent that there will be a large display of exceptionally fine work in this class.

A ladies' committee is to be appointed to make Ladies' Day one of the most eventful of the convention, and the wives, daughters, and sisters of those in attendance will be made happy.

Altogether the prospects for the coming

convention are very promising, and if the present indications are any criterion by which one may judge, the National Convention of 1897 at Celoron, July 12th to 17th, will excel any similiar event which ever transpired in this country.

THE TRUTH ABOUT "DEVILS" OR PITS IN PHOTOGRAVURE PLATES.

BY JOHN PETERSON.

THOSE who are interested in the photogravure process will doubtless recall the several articles which have appeared during the past year or two under the above or similar headings. In these articles various "experts" have set forth with abundant detail the cause and effect, the remedy, the character, and the appearance of the troublesome pests which harass photogravure workers in the guise of "devils." One would imagine that after the matter had once been clearly explained that the "devils" would be cast out and all trouble cease; but the regular appearance of papers and new theories devoted to the subject seems to argue that the "devils" are still with us.

I will cite two articles on this interesting topic. The first appeared some years ago (I forget the precise date) in the *Photographic News Almanac*. It purported to be a complete description of the photogravure process, with working details, but was largely made up of clippings and extracts from the *Photo-Correspondenz*, *Photographische Mittarbeiter*, and Dingler's *Polytechnic Journal*. Toward the latter part of the article the compiler says: "It sometimes happens that during the etching manipulations a very interesting reaction occurs. Small star-shaped indentures are formed, which, if not retouched by the engraver, will give dark spots in the prints. These stars were supposed by some to emanate from impure copper, by others from microscopic impurities in the pigment tissue. Now it is found that the etching solution is the cause. If a fresh solution of iron is employed the above fault will be sure to put in an appearance more or less. This shows at once the remedy."

Again, in *The British Journal Photographic Almanac* for last year (1896), page 826, is an article under the heading, "The Cause of 'Devils' or Pits in Photoengraved Plates." I quote:

"E. Sanger Shepherd, in *The Journal of the Society of Arts*, writes:

"These pits I believe to be due to particles of inferior metal left in the copper from imperfect refining, or forced into the plate mechanically during the rolling and hammering. The impurities, generally iron or zinc, are attacked much more rapidly than the copper, probably from local galvanic action, and the evil is intensified if the solution contains a large excess of free chlorine. Messrs. Hughes & Kimber, the well-known firm of copper-plate manufacturers, tell me that they are obliged to reject many sheets of copper on account of these specks, technically known as 'spelter.'

"If a plate cut from the same sheet as one affected with 'devils' is examined carefully by reflected light after it has been cleaned with whiting, the spots will be seen as brighter silvery specks; and if the plate is then held over the fumes of ammonia until the copper has acquired a decided tarnish, these specks will be still more easily recognized. Although I am unable from the nature of the trouble to state a remedy, this simple test will enable workers to avoid the trouble.

"Plates showing the silvery spots should

be returned to the maker; they are quite suitable for mezzotint or engraving with the burin, but useless for our purpose."

Now all this is nonsense—mere guesswork; it sounds and looks well on paper, but when you come right down to practical work none of these theories will stand a practical test.

On the other hand, it is an easy matter to prove the incorrectness of these theories, and I will do so in a simple practical way, so that anyone interested in the matter may understand. We will proceed systematically, step by step, so that those who desire to experiment for themselves can do so, and at the same time satisfy themselves of the correctness of my assertions.

In the first place we will take a large sheet of copper, say 24 x 8 inches, which is suspected of being full of the impurities spoken of in the articles quoted. In fact, we will suppose that we have a very bad piece of copper (granting of course that the copper is to blame), because we have used part of the sheet, and the plates turned out full of holes.

I might say plainly that I do not deny that there are impurities in the copper generally bought and used for photogravure; on the contrary, I am quite willing to admit that these impurities exist to a greater or less extent in all copper. But I deny that these are the cause of "devils," either directly or indirectly.

We will now take our sheet of copper, 24 x 8, and cut it up into eight pieces, each measuring 4 x 6 inches. These eight pieces of copper, we will suppose, are cleaned and prepared precisely as if we were to make photogravure plates on them. Leaving two of these plates in the rack with a clean surface, we will take the next two and lay a very fine ground or grain on, and melt it on the plates in the usual manner. On the next two we lay a medium grain, and on the last two a very coarse grain. This gives us two sets of plates, four in each lot. It is important before we go any further that the reader clearly understand that these plates are divided into two lots. We will call them lots No. 1 and No. 2. In lot No. 1 there is one plate without any grain on, simply a clean piece of copper, a second plate with a very fine grain, a third with a medium, and a fourth with a very coarse grain. In lot No. 2 we have four plates corresponding exactly with those of lot No. 1.

We now put all the plates of lot No. 1 into the etching bath, without any resist film on, simply the grained copper plates and the single ungrained one. Whether the etching bath is an old or new one makes no difference. In this experiment I simply have in mind the assertion that a new solution of iron will give holes, while one that has been used some time will not. In my own practice I would not think of using a fresh solution of iron; the action is too violent and very difficult to control, so as to get proper gradation of tone; this makes no difference for our present purpose. We will leave the plates in the bath long enough to get a fair amount of depth, bearing in mind that the action of the mordant is much more vigorous on the bare copper than it would be on plates coated with a resist film. We must be careful not to get too great a depth, because in that case there would be such a mass of color all over the surface that the holes would not show, or, if they did, their appearance would be so slight as to be scarcely noticed. We therefore leave them in the bath just long enough to get a tint corresponding to the middle tones of a picture. The exact length of time cannot, of course, be given, as this depends upon several factors, for example, the strength or freshness of the iron; the temperature of the bath at the time the plates are put in, etc. Then also the plates

cannot be left in the bath for the same length of time if we seek the best result. Approximately the plates may be taken out of the bath in the following order: After five minutes the plate with the finest grain can be taken out and washed; in ten minutes the one with the medium grain; in twenty minutes the coarse-grained plate may be taken out; and in half an hour the ungrained plate may come out.

These four plates, now etched to the proper depth, are washed, thoroughly cleaned, and dried. We will sit down and examine them, one by one, with a glass (usually anybody with half an eye can see the holes only too well when they are really present), but as I am blessed with good eyesight and fail to discover any "star-shaped indentures," we will take the pains to examine them under the glass. The result is just the same, glass or no glass, we see plenty of pin-holes, but these are of little consequence as a photogravure plate is seldom rejected on account of these, which are probably pores in the metal.

Having failed to discover any "star-shaped holes" after a most careful examination, we set these four plates aside and turn our attention to lot No. 2, proceeding with them as we would in the regular course of making a photogravure plate. In the first place we select a positive, preferably a portrait, for the reason that it is always difficult and troublesome to get a perfect plate of a portrait. The portrait chosen has smooth and delicate tints and a fine-graded background. Any little imperfections or spots on such a plate will stand right out and attract the eye instantly, while on a landscape they would hardly be noticed at all. Having procured a suitable positive we proceed to make four exposures on carbon tissue and develop them on the four copper plates previously prepared. The reader is supposed to be familiar with the operations to be gone through before the plate is ready for the etching, and also the etching of a photogravure plate itself, so I will pass over that part of it and come to the stage where the plates have been cleaned and are ready for examination. We first take up the ungrained plate and examine it carefully; we find that, on account of the absence of grain, there is not much of anything on the plate, simply a weak impression of the picture. That, however, is of little consequence; what we are looking for are the "star-shaped indentures." We do not find one. We take up the plate with the finest grain, and the result is not quite so satisfactory; there seem to be indications of these holes, but they are so slight as to be hardly noticeable, unless we were looking for them. This plate we will put aside and take up the medium-grained plate. To our surprise there is quite a sprinkling of holes on this one, and they are quite large enough to be plainly seen. The experiment becomes interesting, and putting this plate also aside, we take up our fourth and last plate. This is the one with a very heavy grain. Surprise does not express our feelings as, on examination, we find it to be full of holes, varying in size from the almost invisible to some almost an eighth of an inch in diameter. Their peculiar shape attracts our attention more than anything else. They are not simply holes in the copper with sharp clean edges, but star-shaped, deep in the centre, with arms running out in all directions. The deeper and larger the holes, the longer and thicker the arms. We also notice that the arms are thickest near the edge of the hole and taper away to nothing. Another thing that should be noticed is that these arms do not run straight out from the centre, but zigzag; in short, they resemble a "devil" fish, from which they probably got their name.

There is one more point I would like to

call attention to, and that is, the complete absence of these defects in the high-lights and in the deepest blacks. There are some in the tone next to the deep shadows; but they are small, and the surrounding color tends to hide them, so that a plate is never rejected on their account. It is always in the middle tones of the picture that the spots are most pronounced, and in case of a graded background they are noticeably larger toward the darker portions of it, and run lighter toward the high-lights, where they are lost to sight. I do not mean a uniform gradation, for there will be small spots in the darks, but the largest ones are always found in the darker middle tones.

The best place for a plate of this kind is in the waste box; no amount of retouching will make it good. There are two ways it might be done, supposing another plate was not obtainable: One is to punch each hole up from the back of the plate, and the other is to roulette the plate in the portions where the holes are most prominent, so as to give more depth of color, and consequently hide the defects. These are both impractical. To punch up the holes would be very tedious, and in the end unsatisfactory. To roulette more color in portions of the picture would change its color-values and harmony, and the effect would be bad.

We are now ready to take up and argue why these holes are not due to any of the causes described in the articles I have quoted.

In the first place, the blame cannot be imputed to the copper, because we had eight pieces all taken from the same sheet. The only difference in the plates before we got through was the graining; some had fine, some coarse grain, and some no grain at all; half had the resist film on and the other four had only the grain; but nobody will claim that this had anything to do with the purity or impurity of the copper. If the copper was at fault, why and how was it possible for any discrimination? We should certainly have holes in all the plates, particularly in those that had no resist on them, because there the acid had more freedom in its action. If the fault lay in zinc spots in the copper, I do not believe there would be this great difference, because (as far as I know) the action of perchloride of iron on zinc and copper is about equal; if anything, I think it is more vigorous on copper, although I never tested it. This I know, that perchloride of iron acts very slowly on metallic iron; its tendency is to precipitate it. For instance, if you take a lot of iron-filings and pour perchloride of iron on them, after a short time there will only be the clear acid left, so that in case of iron specks in the copper we should have little hills in the etched photogravure plate instead of holes, which would give light rather than dark spots on print, with the advantage that they could be easily retouched.

For the same reason if the trouble is with the etching bath, why should not these holes make their appearance in all the plates more or less? The same argument holds good for the grain and resist as causes of "devils." Nobody has yet claimed that the grain has anything to do with the trouble, so we will drop that for the present and consider the carbon resist film for a moment.

The reader will remember that there were only two plates that showed holes, and these two had the film on them. We might, therefore, be led to think that, after all, it must be here where the trouble is to be looked for. But you must not forget that there were also two other plates that had the resist film on them, and they showed no holes. If there were microscopic impurities in the tissue, these holes should in the first place make their appearance on all the plates that had the film on, and in the second place there should be no

discrimination for a certain locality on the plate where they should appear. In such a case they should not only show in the middle tones, but also in the high-lights, which they never do. There must be some reason for this discrimination as the mordant has the same chance to act equally on all portions of the film from the time that the plate is covered by the etching bath. Neither will anybody claim that the mere fact of the gelatine film being present on the surface of the plate while in the etching bath would cause any local galvanic action.

Having now dwelt upon the whys and wherefores, probably much too long, I will explain as briefly as possible the real cause of "devils" and pits in photogravure plates.

The fault lies between the grain and the film—they are both to blame. If you use a fine grain, and are absolutely sure that no particles of foreign matter get on the plate during the graining and transferring of the print to the plate (as, for instance, little specks of grit or dirt of any kind, such as sand, but mostly larger particles of the grain), you can be sure that you will get a plate without holes. But as this is next to impossible we will have to "grin and bear it," and buy another plate, possibly with better result, possibly worse. In this case the proverb "Try and try again" comes in handy.

This is the explanation of it. The exposed tissue is transferred to the copper plate and is developed, washed, and dried thereon. The trouble begins when the plate begins to dry. It need not be any particular kind of dirt or grit that has gotten between the plate and the film; but to better illustrate what I mean we will suppose that a grain of sand has gotten there. If after the plate was dry there was any way of examining it, we would find that instead of the film drying close down on the plate the little grain of sand had lifted it up, leaving a small cell of air all around itself. When the film finally got thoroughly dry it pulled together again as tight as the grain of sand would allow, but still left an air-space around the sand grain (the film being tough and leathery it was not punctured), and also left this peculiar drawn-up appearance all around the edges, resembling the familiar reticulation on gelatine dry plates.

If you want to try the same thing on a larger scale, take a sheet of gelatine and squeegee it on to a smooth surface with a lump of some kind between the surface and the gelatine. It will be made perfectly clear to you. You will never find that the gelatine stretches tight and smooth like a drum-head, but always drawn up in little ridges. These ridges are always larger toward the substance which causes them.

As soon as the mordant has penetrated the film and got into these air-holes, the action is probably much more intense there than anywhere else, because we get a greater amount of fresh acid in contact with the copper. The air itself may also have a tendency to favor rapid action.

Right here you may ask yourself why we do not get these holes in the shadows and high-lights of the picture? As far as the blacks of the picture are concerned it is impossible to get the spots there because in development the gelatine is all washed away, leaving the bare copper. Not so with the high-lights; the conditions here are very favorable for the production of spots, but you must remember that the high-lights are the very last to be attacked. The mordant scarcely has time to get through the lighter tints, and does not get through at all in the very highest lights before the plate is taken out and washed. Now, if instead of taking out the plate at the proper time we should leave it in the bath long enough to get quite a heavy tint where the lighter shades and high-lights

should be, we would find that there would be just as many holes there as we found in the middle tones, while those in the middle tones would be lost sight of to a great extent, being etched deeper. The conclusion is that if you use a fine enough grain, and are careful to get no dirt on your plate, you will have no "devils."

ON SECURING CORRECT COLOR-VALUES IN LANDSCAPE PHOTOGRAPHY.

BY THOMAS AQUINAS.

PERHAPS the most serious fault which can be imputed to the landscape photograph is its failure to give even an approximately correct rendering of the diverse coloration of the scene presented. This defect is widely known, yet how seldom do we see remedial measures adopted for its avoidance. It is, however, a comparatively easy matter, by proper manipulation, to secure in the monochrome photograph a correct rendering of the colors apparent in any outdoor scene, so that each shade of color, complementary or contrasting, shall be represented by its true value and relation in the photograph.

The *value* of a color is its lightness or darkness when compared with other colors. All colors do not act with the same intensity upon the sensitive plate as upon the retina of the eye. Some of the colors which appear dark to the eye affect the plate most powerfully, while others, which to the eye are quite light, have but a slight effect on the plate. The chief discrepancy, however, exists in the violet, indigo, and blue, which are chemically the most active and make such objects appear much too light in the photograph. The darker greens, orange, yellow, and red have about the same chemical and visual effect; hence, if a photograph could be formed entirely with these rays, the correct color values would be reproduced.

I will endeavor, as briefly as possible, to show how these results may be obtained. It should be kept in mind that nearly every colored object, whatever its "color," reflects some, at least, of each of the seven rays forming white light. Such being the case, it is possible to eliminate part of these rays and still have enough left to make a picture. Obviously the rays to be eliminated are those having greater chemical than visual intensity, viz., the violet, indigo and blue with, in some cases, part of the green.

The separation of the violet and blue rays from the others may be effected by filtering the light through a solution of bichromate of potash. This fluid has the property of absorbing all except the darker green, orange, yellow, and red, and is, therefore, called a ray filter. There are, of course, other forms of ray filters, such as yellow glass and gelatine or collodion films stained yellow; the results obtained with these are rarely correct, as they all permit a part of the mischief-making violet rays to pass.

As used in landscape photography the bichromate solution is most advantageously contained in a cell formed by cementing a glass ring between two plates of optical glass having optically plane and parallel surfaces. The cell is mounted in a cork-lined metal ring of suitable size to be attached to the front of the lens. It is, of course, essential that the cell should have optically plane surfaces and that the glass surfaces be perfectly parallel, in order not to interfere with the definition of the lens. Such a ray filter may be attached to any lens or camera, and being

instantly removable, it should form part of every outfit.

By its use the proper proportion of light and shade is maintained in landscapes; the proper perspective of the scene is emphasized by the correct rendering of the intensity of foreground and distance; patches of vegetation of varying colors are thrown into relief; the normal value of the sky appears instead of an expanse of blank white, and clouds, if present, are reproduced in detail and of their natural intensity, so as to print with the foreground.

It is hardly possible to reproduce a springtime or autumn landscape, snow scene or mountain view without the aid of such a ray filter. As only the slowly acting rays pass through the filter to the plate, the use of plates specially sensitized for these rays (orthochromatic, isochromatic, etc.) is plainly advantageous. As these can now be had at the same price as regular plates, they should invariably be employed in landscape work.

It is of course possible, with time and skill, for anyone to make a ray filter as here described, but the excellent ray filter made by the Bausch & Lomb Optical Co., obtainable from any dealer at a nominal price, completely obviates the necessity of making one for oneself, a proceeding at once tedious and expensive in the end. I have used one of the ray filters made by Messrs. Bausch & Lomb since their first introduction, and can therefore speak with confidence of their convenience and usefulness.

THE AVOIDANCE OF REFLECTIONS.

In an excellent paper on practical methods of avoiding reflections in photographing burnished objects, such as coins, medals, etc., in the *British Journal*, Mr. T. N. Armstrong says:

"Apart from such subjects as interiors, there are others that, in a sense, may be classed special, which experience alone can teach an operator how to deal with. Coins and medals, and other articles of varying shape in silver and bright metal, for instance, have frequently to be photographed for the purpose of illustrating books or trade catalogues, in which case the important point to bear in mind is that the design must be maintained, any smothering or obliterating of such by white patches or reflected light being fatal to the results required.

"In the case of coins or similar objects, some writers recommend the making of plaster casts, and photographing these instead of the actual coin. In the course of my practice, extending now over upward of twenty years, it has fallen to my lot to photograph a very large number of such articles for book illustrations, and I have experimented, perhaps, as much as any other worker, in devising the best means of doing this particular kind of work. In this I have had the advantage of the assistance of an expert silversmith, and I can safely assert that every known method of the silversmith's craft has been brought to bear on the operation, so as to avoid the slightest trace of reflections that tend to mar the designs; and, as far as my experience goes, I have never been able to produce such absolutely clean-cut designs, when working on plaster or sulphur casts, as can be obtained by working on the coin itself. Into the various secrets of the silversmith's art, whereby the objects are made to assume not only a different color, but a matt surface, I need not enter, suffice it to say that I am satisfied the one and only satisfactory method of working lies in dealing with the articles themselves, and photographing the same, but not by ordinary daylight, as many suppose. Any one

undertaking the work by means of plaster casts never produces the fine lines in the original to such perfection as when the article itself is dealt with. It is in the method of lighting the coin that the great secret of success lies, and for this purpose there is nothing to equal a good paraffin lamp, shielded almost all around, after the pattern of a microscope lamp, with a shield of plaster-of-Paris. This enables a beautifully soft light to be concentrated upon the article from the correct spot on the side.

Some writers advocate the use of a medium to deaden the surface of the brilliantly polished or burnished silver, such as rubbing the article with putty or grease, but my experience has taught me to discard such a method, which is very liable to damage or scratch a costly article. When very costly articles are being dealt with, the employment of ice and a few warm smoothing irons will be found to work wonders in the way of yielding an entirely dull surface to any highly polished or burnished surface. Putty should never be used; such is repugnant to any silversmith, or anyone who knows the liability such highly polished surfaces have to suffer from the slightest rubbing.

"Very many articles are easily treated by merely blowing or breathing upon them during exposure. Silver coins or medals need never be rubbed to deaden their surfaces, and provided they are properly lighted, so as to bring the design in bold relief, any amount of vigor can be obtained by using paraffin lamps in an absolutely dark room, or one having no cross-lights from other sources.

"In working after this manner, consideration must be given to the proper methods of holding the articles *in situ*, as well as the employment of the most suitable backgrounds."

NEWS AND NOTES.

STILL another process for producing photographs in colors is announced. This one hails from San Francisco, and is thus breezily reported in a recent issue of the San Francisco *Call*.

"Here in San Francisco a young scientist is making photographs in natural colors by a method that will make Chassagne's wonder get off the earth into the histories when it is got to working just exactly right.

"This assertion is made on the authority of T. P. Andrews, a well-known photographic dealer and expert, and one or two others. The inventor's name is a secret, as is his process, but the fellow has nailed the principle and has produced colored photographs that are wonderful.

"'Our man is working on an entirely different principle from the method of M. Chassagne,' said Mr. Andrews, while speaking cautiously yesterday, and his method is vastly more simple. He says that his discovery is based on principles of light and chemistry quite different from those of the Frenchman.

"A year ago, as the reliable story is gathered, this local inventor who had for many years been an expert amateur photographic crank, had hit upon the secret of and had made photographs in colors. He was penniless, wanted capital, and went to Mr. Andrews, who talked with one or two men of large means. It was a business proposition wholly. The pictures were crude and the process complicated and uncertain, though the principle and possibility were there."

IT is proposed to form in London a scientific society for the study of the x-rays.

To photograph the interior of a room, showing the view from the windows, says a

writer in the *News*, first make a flash-light picture of the room at night, with the windows thrown open. Distribute the light well, so that the shadows are not cast in the wrong direction. Having exposed the plate, leave the camera in position, cap the lens, and lock the room for the night. Early next morning open the windows as before, focus anew for the out-window view, and give a very brief exposure. This secures the out-door view and does not injure the view of the room previously taken.

To remove developer or drying stains from negatives, immerse the plate as long as may be required in the following solution:

Thiocarbamid	20 grains.
Citric Acid	40 "
Chrome Alum	20 "
Water	4 ounces.

This solution may be used repeatedly until exhausted.

An English dry-plate manufacturer supplies plates backed with orange collodion for the prevention of halation, at the regular price. It is said that this backing is completely effective, in no way interferes with the manipulation of the plate, and can be easily removed after development. Another manufacturer announces isochromatic and ordinary plates backed with a perfectly soluble medium having the same refractive index as glass. This medium readily dissolves in the developer and is easily removable.

A Mr. W. Brooks, after long experimenting with a process of color-photography, has succeeded in producing a landscape in colors on glass, this result being secured by exposure and development alone, without the intervention of dyes or stains. *The British Journal* says: "The beauty and apparent fidelity of the colors, and the absence of any visible photographic base, are very striking, the total effect being that of finely deposited colors." The method is to be perfected as early as possible.

Litmus Paper and other Indicators. "Test paper," as it is familiarly known, is as necessary an adjunct of the printing-room as it once was, in the day of wet-plates, in the dark-room; but the exact meanings of its changes of color are by no means well known. If the printing-bath is acid, it is generally believed that a red color indicates that acidity; but, when we come to a question—one of more importance than is generally understood—of the state of the toning-bath, the indications are more feeble and liable to misinterpretation. Some useful information on this point is to be found in the proceedings of the Paris Academy of Sciences, by H. Lescœur. He finds out that the change of litmus to red may indicate either acidity or neutrality. When phenol-phthalein is used, and a red color is produced, we are to assume not a change from acidity to alkalinity, but from neutrality to alkalinity. Poirier's orange No. 3 is colorless in neutral or alkaline solutions, and red in presence of acids; it therefore shows the passage from neutrality to acidity. M. Lescœur's final conclusion is that a really neutral substance is indicated by phenol-phthalein remaining colorless and litmus becoming red.—*British Journal.*

The Convention of the Photographic Association of Canada, to be held at London, Ontario, August 17th to 20th, proposes to confer the degrees of P.S. (Photographic Scientist) and D.P.S. (Doctor of Photographic Science) on photographers passing an examination test formulated by the Association. The certificates of degrees, etc., are appropriately to be conferred, on those who win them, at the Convention Banquet!

L. V. Kupper, Edinboro, Pa. *Photographer.*

1. Where the Road Parts.
2. Evening on the Conneauttee.
3. Winter Evening.
4. A November Sunset.
5. Willows in Winter.
6. A Place for Ducks.

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6. A Place for Ducks.

SUNSETS.

BY L. V. KUPPER.

Copyright, 1897, by L. V. Kupper, Edinboro, Pa.

SUNSET AFTER STORM.

AMONG the many special lines to which the landscape photographer may devote himself, the photographing of sunset scenes is undoubtedly one of the most enjoyable. A beautiful sunset reminds us that the course of nature is the art of God, and the study of nature gives us a key to the highest possibilities of the art photographic and pictorial.

Perfect results are as difficult to obtain in sunset photography as in other branches, but they are worth all the effort required to gain them, not only for the exquisite pleasure they give, but because of the

valuable experience secured in their making. A little art, a little thought, and a little patience are the indispensable requi-

L. V. Kupper, Photographer.
OCTOBER PASTURES.

sites. There must be skill for the selection and composition of a suitable foreground for each subject. The middle distance is of equal importance. The sky, as a matter of course, is the keynote of the theme. One of the advantages of this work is that one does not need to travel a long distance in search of pictures. Along our creeks, or in the marshes, or about the many little lakes which abound in country districts, beautiful effects may be obtained if one will only give the locality an occasional survey before going out with the camera. Two sorts of sunset pictures suggest themselves: those which are distinguished by their quietness, embodied in the phrase, "the dying day," where the sky is only broken by long lines of low-lying clouds near the horizon; and those which present bold effects, where the abundant cloud-forms array themselves as armies in battle, now opposing, now melting away, and again marshalled in great masses of light and dark. It is to the clouds that we must look in a great measure for the expression of our landscape. The pictorial effects presented by clouds at the coming or clearing off of a storm are generally appreciated. Such opportunities should not be neglected. For my own part, I always take care to have a camera ready, with a couple of plates at least, for such chances; and since it is often necessary to photograph against the sun, it is well to have your plates backed to avoid the spreading of the light, known as halation. Generally speaking, however, the sun may be taken at an advantage when hidden behind a cloud, or just below the horizon, or behind a clump of trees.

Remember, also, that you are striving to record in black and white scenes which are nature's most gorgeously colored handiwork. Do not let the colors entrap you. Go out and acquaint yourself with nature seen through a pair of blue-tinted glasses, and realize the relative values of sunset effects before you essay to picture them with your camera. Orthochromatic plates are a *sine qua non*, and if a screen can be used the effects secured will be correspondingly enhanced.

L. V. Kupper, Photographer.
BY MOONLIGHT.

The moment of exposure must be carefully watched for, an instant too soon or

too late, and the effect is lost. Do not waste a plate when you realize that the best effect is past, but go home and await your opportunity. The blue glasses should be worn when one watches for the right moment. Leave the development of the plates until supper is over and nothing else claims your attention. Develop slowly, starting with a fresh developer, strong in alkali. If the highest lights come out quickly it may be advisable to paint them with a weak solution of bromide of potash, but more often the contrast may be better overcome by dodging during the printing of the pictures. Use the best means your experience suggests for the end in view; each view will require its own peculiar treatment, but all will demand care and thought at every stage.

As a professional photographer who has found a delightful recreation in outdoor work, I commend this branch of our art to my coworkers as one which abounds in pure pleasure, while at the same time training the eye to see and the mind to realize the beautiful.

PICTURES BY PHOTOGRAPHY.

BY C. ASHLEIGH SNOW.

"When the trees are all in blossom, and the bees are buzzin' round,
A hustlin' for the honey that in apple blows is found."

THE editor of this MAGAZINE, ever mindful of his readers, requests me to give some pictorial suggestions for the season now upon us.

As the howling winds of winter cause the sash to rattle in the casement, and the frost nips the nose painfully whenever one wanders far afield, I confess to a feeling that life seems hardly worth the living; but as the sun rides higher day by day, the leaves burst forth, and "camera time" returns, my blood quickens, and so eagerly do I begin the welcome task of putting things in order for the yearly outing, that nobody then calls me lazy.

In the beginning I would say that the pursuit of pictures by photography is far more than a pastime, and it should be seriously and thoughtfully undertaken. It is a good thing to aim high, for, even when you fail, you know that you have made a noble failure.

The most that anyone who would help can do is to tell of his personal experience. Although I take prints from few of my negatives, I try to make each one of such quality as would enable me, should need of a picture from it arise, to produce one.

It is needless to talk of "limitations," etc. The ground has been thoroughly gone over, and hundreds of workers still stick to the camera despite all limitations.

I follow a regular system of preparation for pictures. Lying upon my desk I keep a huge book made up from a pile of some fifty very heavy manilla envelopes about 8 x 10 in size. Tapes are run through the back edge, and the mass is then bound with sheets for an index into book form with stiff covers. The result is, that when titled and numbered I have a series of pockets, into which I drop from day to day all notes from my pocket note-book, and any clippings that I may cull from my reading. There are thirty or forty of these pockets in constant use, such as color, process notes, art and artists, photography, chemistry, optics, poetry, biography, anecdotes, travel, etc. I carry note-books in my pocket to cover these heads, and the pages are easily cut, when filled, for index and preservation.

Whenever the mass becomes so large as

to be unwieldy, I take a few evenings and classify and put all in order for use.

I read constantly all the monthly magazines, the trade publications, *Scientific American*, *British Journal of Photography*, all the photographic magazines, and cull anything useful and index the same, so that it can be found when wanted. Now readers of Bryant, Whittier, Longfellow, Emerson, Lowell, Wordsworth, Tennyson, and others, will not need to be told that the poets suggest most of our pictures. Reader, have you ever tried "picturing" mentally what the poet so well puts into words. Take Tennyson's "Bugle Song." What kind of a castle do you picture mentally when you read that

"The splendor falls on castle walls?"

Is it a brick-built castle or one of stone? Is there any ivy growing anywhere upon it? Do you know what a portcullis is, and for what purpose it was used? Does your castle float a standard, and, if so, of what nation? Would "Old Glory" look well floating from a castle? How high is the verge of the cataract that "leaps in glory," from your standpoint, mentally? Then comes the refrain, "Blow, bugle, blow," what sounds do you hear mentally, musical ones or a trumpet blast? Now, to illustrate by pictures any of these things one must have some idea of what the writer saw in his mind's eye. Read Scott's Waverly Novels, read Byron, and brush up your picture-making machinery.

C. A. Snow, Photographer.

CHIARO—OSCURO.

To return to our subject. Let us open my poetry envelope. The first lines that I find are those heading this article. It is easy for anyone to supply an illustration for these lines if living in the vicinity of an apiary. If the owner be so picturesquely inclined as to provide coverings of twisted straw for the exposed hives, then your negative, if you compose your picture well, should be a choice one.

The conclusion of this selection is this:

"You can hear the cows a lowin' as they slowly plod along
The lane, down to the meadow, an' can hear the plowboy's song,
As he gaily goes to labor with a heart as light as down.
When the trees are all in blossom, an' the bees are buzzin' roun'."

C. A. Snow, Photographer.

BY THE RIVER.

One may readily secure a snap of such plowboy and the lowing kine in any country lane, and if your outfit be well selected the print will give a better result than many an illustrator can furnish from his fancy.

Again, let us draw forth a note:

"In cherry-time the skies are blue,
'Neath us the red-white clover,
Whose paths of sweetness wind and wind
The hills and valleys over."

Get your big brother and his "ownest love" to gather cherries, with baskets, ladders, etc., tastefully disposed, and you may add a pretty pastoral picture to your portfolio.

Again, a suggestion for spring as we draw forth:

"Merry May day! Merry May day!
You are with us once again,
Let us crown you in your hey-day,
With the trophies of your reign."

He must indeed be lacking in imagination who, upon reading this stanza, fails to picture to himself a group of joyous children, with the "Queen of May" in their midst, flowers, wreaths, etc. With such a mental picture he must be dull, indeed, if he cannot induce a group of gambolling youngsters to arrange themselves for a picture before the lens. Only let a caution be given that no one of them is to look at the camera. Amateurs always show posers thus.

Looking again we find this for summer:

"What wouldst thou have for easement after grief,
When the rude world hath used thee with despite,
And care sits at thine elbow day and night,
Filching thy pleasures like a subtle thief?
To me, when life besets me in such wise,
'Tis sweetest to break forth, to drop the chain,
And grasp the freedom of this pleasant earth,
To roam in idleness, and sober mirth,
Through summer airs, and summer lands and drain
The comfort of wide fields unto tired eyes."

For summer again we draw:

"Our summer camp lay deep in northern woods,
Beneath the boughs of murmuring fir and pine,
Where Nature's beauties in their glory shine,
And in the ample forest realms find food
For all our thought . .
For we had tired of world and books and men
. . . Our thought was turned away from
Words of trade and pen
By constant strife and toil so dearly wrought."

C. A. Snow, Photographer.
A GAP IN THE FOREST.

And this suggests a forest picture from a northern wilderness to represent the thoughts of the poet. Linger one moment to glance at this picture, and note what is *not* done: First. The horizon line is not half-way up the picture, only about one-third. Second. The weight lies well to the left, not equally balanced as usual in photographs. The lone fisherman is *not* plumped exactly in the centre, as is commonly seen. The cleft of clear sky is *not* equidistant from top and bottom. In other words, *some* common blunders have been avoided in this negative.

We saunter down by the river and, consulting the note-book for suggestions for a water view, we find:

"Here lay a stretch of sleeping water,
Deep pools darkened in a woodland frame,
And rippling currents that the light had caught."

We expose for the picture, and while focussing we try to avoid the balance blunders and weak centre faults; we focus for the "rippling currents" and secure them.

Childhood pictures never fail to charm the beholder. The two friends in the first picture, "Chiaro" the fair, and "Oscuro" the dusky one, are smiling at the dubious result of the butter-test as shown on Topsy's chin. The smile is mutual, but I could wish that "Chiaro" might have been less proud of her face, and so given her attention to the buttercup, rather than the lens. The background is a homemade affair of amber and lampblack, hence *not* by "Seavey."

D. H. Lambert, Photographer.
"A WINTER'S TALE."

Let us again consult our envelope for a genre picture. We have here a suggestion for a home interior by flash-light which is easily managed:

"The fire upon the hearth is low,
And there is stillness everywhere;
Like troubled spirits, here and there
The firelight shadows fluttering go.
And as the shadows round me creep,
A childish treble breaks the gloom,
And softly from the further room
Comes—'Now I lay me down to sleep.'

"And somehow with that little prayer
And that sweet treble in my ears,
My thoughts go back to distant years
And linger with a dear one there;
And as I hear the child's 'Amen'
My mother's faith comes back to me,
Crouched at her side I seem to be
And mother holds my hands again"

This is one of "'Gene. Field's "Igems. Surely any household can furnish a suitable picture to illustrate this "Little Prayer."

Again we draw forth a home scene:

"The blessed old fireplace! how bright it appears,
As back to my boyhood I gaze
O'er the desolate waste of vanishing years,
From the gloom of these lone latter days.

"I remember the apple that wooed the red flame,
Till the blood bubbled out of its cheek,
And the passionate pop-corn that smothered its shame,
Till its heart split apart with a shriek."

Any reader of "Snow Bound," by Whittier, will recall the "apples spluttering in a row," the "mug of cider simmering slow," and should have no difficulty in arranging an interior for the illustration of the above.

Opening the "Outing" envelope we find a suggestion for a cycle picture:

"I sing in my careful gladness; I am kin to the wind that's blowing:
I am thrilled with the bliss of motion like the bird that skims the down;
I feel the blood of a gypsy in my pulses coming, going!
Give me a wheel for a comrade, and the king may keep his crown."

Now this is an "easy one," and one need not go far afield to secure an illustration for this stanza, although I should stretch a thread across the road, and let

the coaster snap it and the shutter at the same time. The focussing is, of course, all arranged previously. For process reproduction the 4 x 5 plates are too small. One should learn to enlarge them, and then take a course of art-lessons from some good teacher, and learn to retouch the prints properly. Next should follow a course in combination printing of bromides when enlarged, and silver prints from two or more negatives. Following this should come the study of composition as laid down by Burnet, and then the worker will realize that in truth and deed photography is a serious study, the use of the lens being only as a means to an end.

OUR PICTURES.

J. A. Brush. Minneapolis, Minn.

MAKING THE MOST OF A SUBJECT.

THREE branches of photographic work which will naturally engage the attention of our readers during this month are worthily represented in our pictures. Studio photography is always seasonable, and therefore we lead with an excellent example of full-length portraiture by Mr. W. M. Morrison, of Chicago, Ill. We are sure that our readers will share the admiration we give to this fine piece of work. The subject, Miss Maude Adams, is one which has already appeared in our pages, but was then portrayed by Mr. F. G. Schumacher, of Los Angeles. A comparison of the two pictures will prove interesting to those who possess the July, 1895,

MAGAZINE in which Mr. Schumacher's picture was given. Mr. Morrison has given skilful handling to his model, and it is difficult to see in what manner the picture could be improved either in posing, lighting, or arrangement. The print is on matt-velox paper, made by The Nepera Chemical Co., Nepera Park, N. Y., and fairly demonstrates the value of this paper to the professional photographer who desires to get out large editions of prints where only a single negative is available. The famous Seed 26x plates were used in making the series of negatives from which our plate was chosen, and prove their grand quality.

The number of photographers devoting part of their spare time to outdoor work in landscape, etc., increases each year. It is a good sign, for the work may be made to combine pleasure and profit. The beautiful pictures by Mr. L. V. Kupper, of Edinboro', Pa., engraved herewith, will, we believe, still further enlarge the ranks of those who are already working in this direction. We have already presented other examples of Mr. Kupper's work in previous issues; these now engraved were selected from his exhibit at the Pennsylvania Convention, where they secured for him the highest award in his class, and a special prize offered for the exhibit securing the largest number of points for general excellence. Mr. Kupper has since had such a number of inquiries for copies of his pictures that he has arranged to supply prints to those desiring them. For the convenience of our readers we list them here, with their respective sizes: 1, "Where the Road Parts," 8 x 10; 2, "Evening on the Conneaut," 8 x 10; 3, "Winter Evening," 8½ x 6½; 4, "A November Sunset," 8 x 10; 5, "Willows in Winter," 8 x 10; 6, "A Place for Ducks," 8 x 10; 8, "Sunset after Storm," 8 x 10; 9, "A Moonlight Night," 6½ x 8½; 10, "October Pastures," 7 x 9. The prints will be supplied unmounted, in platinotype, at 75 cents each for the 6½ x 8½ size; and $1 each for the 8 x 10 size. They speak for themselves as most desirable decorations for the reception- and waiting-rooms of the studio or home, and hence have appropriate mention here. Orders should, of course, be sent to Mr. Kupper direct. The pictures were all made on Cramer plates, with a Gray Periscope lens. On another page Mr. Kupper gives interesting information as to his working methods.

Photography, indoors or out, would be a dull round without the children, whom, happily, we have always with us. They are the backbone of photography as a business, and "no studio is complete without them." The examples of child portraiture engraved for this number are from a photographer who has achieved an enviable repute for his skill with the little ones, Mr. J. A. Brush, of Minneapolis. We venture to say that more children have passed through the Brush studio than through any other American studio, except, perhaps, that of our veteran children's photographer, Dr. G. G. Rockwood of our city. The combination "Making the Most of a Subject," given herewith, as showing eleven poses of a child in one picture, offers a valuable suggestion in the persuading of business. The separate inset, a mosaic of six cabinets, will prove equally valuable in the making of single pictures.

A DODGE—AND ITS SUCCESS.

BY A. HELMOLD.

ON the occasion of a firemen's muster last fall I received an order from the local water department to photograph the principal street of our town while six fire companies were playing six streams of water at full pressure. The job seemed to be of

importance, for I was given to understand that there was to be no failure in the matter; and the order was a profitable one, if successful, including a number of enlargements to 16 x 20 inches. The programme of the event, as arranged, was as follows: after the formal parade the six companies were to return to their respective quarters, and at a given signal to run to High Street (the chief thoroughfare), and get into operation as quickly as possible. Four of the companies are located near the centre of the town. The other two had their quarters over a mile away, which made them late in arriving at the scene of action.

Everything was ready for exposure, and the signal was given. The four near-by companies arrived almost simultaneously. To my surprise and dismay they commenced business as quickly as they got into position. For fully three minutes they squirted before the other two companies came upon the scene. Imagine the condition of the atmosphere! Dropsical—well, I should say so. London fogs are not a circumstance compared with the atmospheric effects presented on my ground-glass. But "there must be no failure," the water board had said; and I reflected upon the proverbial slip "twixt cup and lip." There were twenty or more camera men about me—a source of intense comfort, for "misery loves company."

Fog, or no fog, I was bound to go ahead, and I went. The view was exposed, so were a score of others in as many cameras, on the principle, I suppose, the more the merrier in failure as well as success. Slipping a new plate into place, I waited, and at last the demoniac streams were done. A minute sufficed to clear the atmosphere; things and men were unchanged in position; and I took a second view of the street, minus the streams. I began to see my way out of failure.

I developed my plates carefully, but the first exposure was, as I expected, a lamentable failure. But it gave me the relative positions and height of the mischief-making streams. The second negative was fine, but, of course, had no streams—like *Hamlet*, without the ghost.

Taking a print from each negative, I delicately painted on the second print the various streams indicated in print number one, copied my "faked" print, retouched the negative here and there, and *presto!* I had a presentable proof. Does photography lie? Certainly not. There was to be no failure. There was none. The water department was pleased; so was I; and the order materialized. The other camera fiends had nothing to say.

It still holds good that a cat's hide may be successfully removed by diverse methods.

Some time ago I saw in your MAGAZINE, Mr. Editor, an article referring to a well-known dodge for local reduction of intensity in a negative. It is extremely effective, and worthy of much more general application. It consists in rubbing the parts to be reduced with a chamois-skin and alcohol. Great results may be obtained by this method. But the writer referred to makes a mistake when he says that the black or intense portions of the negative are most affected by this friction, giving as a reason that those parts, on account of the greater deposit of silver, were raised above their surroundings, and consequently were the first to feel the effects of the friction. Theoretically this sounds very well, but practically the reverse is true. The greater the deposit of silver the greater the resistance. Let our friend take a needle and try to scratch the negative. It will be an easy matter to do so in the more transparent parts, but much pressure will be necessary to make an impression on the dense part.

A few days ago I was required to take a picture of a new grave laden down with

flowers. For a background I had an evergreen hedge. The central floral piece was an elaborate anchor, perhaps two feet high. All was bathed in a flood of sunlight, and many leaves of the hedge, reflecting the strong light, resembled white flowers. The anchor was partly lost—did not separate well from the rest. I applied the chamois-skin and alcohol to my negative, and soon the hedge receded and the anchor came out perfectly. If carefully done a negative can be much improved in this way.

A NEW FLASH-LIGHT MACHINE.

"THE nearest thing to an idea is a question," says an advertisement in one of the current monthlies. We had an apt illustration of this familiar truth a few days since. Our friend, Mr. A. E. Johnstone, of the Automatic Photograph Co., is a man equally fertile in questions and ideas. One of his "little chats" resembles most of all an endless strip of kinetoscopic film exposed upon photography, scientific, theoretical, and practical, and perforated during the exposure by a formidable battery of interrogation points.

Over a year ago our friend came to us with the question: "Where can I get a flash-light apparatus, quick enough for portraiture, and at once cleanly and safe in operation!" We rapidly reviewed the various machines on the market, but Mr. Johnstone was not satisfied. A lamp burning pure magnesium was suggested as safe, though slow. The reply came quickly, "Yes, but a sitter cannot possibly retain his composure and 'look pleasant' while a prolonged streak of blue lightning is served out to him through a rubber tube and (as it appears to him) from an inexhaustible reservoir of powder. I want a machine that will catch the unconscious expression, and one that I can use about the house without the necessity of a 'thorough cleaning' after each operation." There was nothing left to say save the suggestion, "Why not invent one for yourself?" And so the chat ended.

A week ago Mr. Johnstone approached our editorial table, bearing under his arm the proverbial mysterious package. This proved to contain the ingenious machine we herein describe, which seems to fulfil all the requirements suggested in the interview mentioned as neccessary for the perfect and practical portrait flash-light machine.

We hardly know whether to praise this apparatus most highly for its cleanliness, its safety, or its efficiency. Every other machine than this is sufficiently begrimed after two or three discharges to necessitate a thorough cleaning (a dirty job, at best), or to risk the impairment of its after working. The Johnstone machine is as clean after a hundred exposures as after the first, and the flames are so far removed from the powder as to render it safe. The accompanying illustrations show at a glance how these important advantages are attained.

The tray in the extreme front of the machine has four equidistant perforations. At the rear and under the tray will be seen a horizontal rod bearing four arms, and at one end a tiny cog-wheel. The arms are provided with metal points (of a special alloy of platinum and iridium) made to stand enormous heat without softening or corroding. In their normal position these arms are poised behind the machine proper, the platino-iridium points being at the same time over four jets of flame fed by the cylindrical spirit-lamp shown in the cuts. The flames are fully six inches removed from the powder tray, and

FIG. 1.—Ready for operation.

are separated from the powder by a metal and by a fire-proof paper partition later described. These features in the lay-out of the machine insure absolute safety in manipulation.

The machine is operated by the usual rubber bulb and "air engine." The piston of this engine ends up in what mechanics call a "rack," which engages with the little cog-wheel already mentioned. When the piston moves forward the rack turns the cog, rotating the horizontal bar and its platinum tipped arms. On releasing the bulb the arms return to their normal position over the flames. A small spiral steel spring is used to assist in the quick and certain return of the arms.

A bulb with two outlets is preferable, one tube operating the camera shutter and the other the flash-light machine. To provide against the possibility of the flash igniting before the shutter is open, the inventor has made the cylinder of his flash machine considerably larger than the largest shutter cylinders in the market. This method is simple and scientifically certain, for it is obvious that on pressing the bulb, equal volumes of air rush through each of the two rubber tubes; the smaller cylinder will fill first, and therefore operate first, the larger following a fraction of a second later.

The working outfit includes a supply of prepared fire-proof paper. In operation a sheet of this paper is clipped on to the pan by the springs at each end of it, and the powder is dusted over the paper. At the moment of exposure the bulb is quickly squeezed and released, causing the red-hot points to whirl round and penetrate the paper through the perforations in the tray, igniting the powder and flying back to normal position. The clips are raised; the dirty paper is thrown in the basket (it costs practically nothing); another slip of paper is clipped on, sprinkled with powder, and all is ready for the next exposure.

FIG. 2.—In operation.

The working parts being all under and behind the powder tray, are never near the flame or smoke of the burning powder, and are therefore always clean and bright. The powder pan itself is protected by the fire-proof paper.

The entire machine is constructed of aluminum and weighs less than fourteen ounces. As a piece of mechanical work it is a wonder. Unlike many existing machines, which are literally stuck together with soft solder, no solder is used in the construction of this machine; it is not even rivetted, the parts being screwed and bolted together in a workmanlike manner.

We believe that the Johnstone flash machine will give an impetus to flash-light portraiture among amateurs as well as professional photographers. The compact form, portability, and the ease and cleanliness of its operation, indicate its special usefulness for home portraiture. While chiefly designed for single portraits, it may be used with success for small group work and the like. By further extension of the powder tray, which measures twelve inches in length, the trail of powder may be lengthened to secure a larger surface of light when desired, but the facilities already provided will generally be found ample for all needs. The use of a screen of thin white cheese-cloth, placed between the light and the subject, is recommended. This diffuses the light and gives better modeling and illumination of the shadows.

The examples of portraiture shown us as produced by this machine cannot be distinguished in any way from pictures taken under the skylight, and, having carefully observed its practical working under diverse conditions, we have no hesitation in pronouncing the Johnstone machine as the best and most satisfactory apparatus of the kind yet produced. The invention is patented in this country and abroad.

A "GRAND PRIZE" PICTURE.

AMONG the noteworthy exhibits displayed by Pennsylvania photographers at the Harrisburg Convention last January, none was more generally admired than the collection of portraits sent by Mr. B. L. H. Dabbs, of Pittsburg. In this instance the popular vote agreed with the official award, for the exhibit received the Grand Prize of the Convention, a beautiful bronze figure donated by Messrs. Hugh Morrison & Sons.

A small engraving of the Dabbs exhibit was given in our report of the Convention at page 117 of the March issue of the MAGAZINE, and this has provoked requests for a representative example of the work of the Dabbs studio—the principal establishment of its kind in Pittsburg. By the courtesy of our old friend and coworker we are able to give here an engraving from one of the attractions of the exhibit above mentioned.

The picture of an old man smoking is one which may be studied with considerable profit. The difficulty of securing a pleasing portrait of a man in modern dress is one of which all photographers have had a bitter experience. Mr. Dabbs has overcome any awkwardness in this detail by skillfully disposing the overcoat and cape worn by his subject so as to secure ease and grace in line, with helpful variety of form and chiaro-oscuro. In this and other ways the portrait supplies valuable suggestions to the observant portraitist. An excellent lesson may be had by placing over the picture a sheet of white cardboard with a cut-out, the opening of which measures 2½ x 3¼ inches. If this be placed so that the top of the cut-out is ⅜

B. L. H. Dabbs. Pittsburg, Pa.

A LOVER OF THE WEED.

of an inch from the top of the hat, and the right hand edge 1⅛ inch from the tip of the nose, the portion of the picture so isolated will be seen to gain in effect.

INTENSIFICATION BY MEANS OF FERROUS OXALATE.[1]

THIS method of intensification is theoretically the most perfect, inasmuch as if properly carried out the resulting negative image consists of metallic mercury and metallic silver, the whole of the silver of the image being left in the film. However, like most theoretically perfect processes, it needs to be carefully carried out, or stains will inevitably result. This is, in one way, an advantage, inasmuch as if a negative be intensified by this method and presents no stains when it is finally dried, it may be

[1] Abstract of a paper read by F. P. Warren before the Croyden Camera Club.

relied upon to be permanent, whereas by other methods of mercurial intensification the operation may, to all appearance, have been successfully carried out, but, on keeping, stains will gradually make their appearance, and, it may be, a valuable negative will be seen to gradually perish before the owner's eyes.

The ferrous oxalate method of intensification may be carried out in diffused daylight. If sufficient density is not obtained the process may be repeated to any required extent.

In the first place, all hypo must be carefully removed by thorough washing. If this has not been done, the hypo should be decomposed by the application of a bath of alum, or, better, a dilute solution (1 : 200) of hydrochloric acid. Then thoroughly wash and immerse in a saturated solution of corrosive sublimate, to each ounce of which a drop of strong hydrochloric acid has been added, till the image is bleached. Then wash for twenty minutes in running water, rinse with distilled water, and soak in this for five minutes. The treatment with distilled water is necessary, as the lime in the tap water would otherwise cause markings. Immerse the bleached and washed negative in a solution of ferrous oxalate, prepared by adding one part saturated solution of ferrous sulphate to four parts saturated solution of potassium oxalate. The image will now gradually blacken; when this blackening has extended to the back of the film, pour off the solution of ferrous oxalate and soak in distilled water for six minutes with three changes, and finally wash well.

If distilled water has not been employed, it is necessary to soak the plate after washing in a 1 per cent. solution of hydrochloric acid for a few minutes, to remove the oxalate of lime deposit; then rinse well, and set up to dry. Thorough washing is essential at each stage.

PERSONAL PARAGRAPHS.

M. Carey Lea, whose researches in the chemistry of photography are valued wherever photography is known, died on the 15th of March last. Our older readers will remember Mr. Lea as one of the early contributors to this Magazine and *Mosaics*. He was an enthusiastic and indefatigable worker in photography, and during his life contributed a vast store of information to photographic literature. As one of the few American scientists interested in photography and its advancement, his death is an event to be deplored by all.

Portraits by Cox. The May number of *McClure's Magazine* contained a profusely illustrated article on the personality and work of Mr. G. C. Cox, of our city, which should be seen by all eager to excel in portraiture. This artist, although unknown to the fraternity by reason of his retiring disposition, has for many years devoted himself to that style of portraiture so successfully followed by Messrs. Appleton, Hollinger, and others, and his *clientèle* includes most of the famous men and women in the literary and art world of to-day.

M. Herbert Bridle, who contributes a thoughtful paper on the subject of "Industrial Co-operation in Photography" to this number of the Magazine, is largely interested in theosophical work, and is enthusiastic in his belief that this movement is destined to become an important factor in the world's progress.

Napoleon Sarony. At a recent meeting of the Photographers' Copyright League the following note was offered and

unanimously received, and a request made that the same be entered upon the minutes of the League, and a copy of the same be sent to the family of our late loved and honored President, Napoleon Sarony:

"In looking back upon the remarkable development of the photographic art during the last three decades we feel that to no one person are we so indebted as to Napoleon Sarony. Not only is this true as to his genius and knowledge, but for the courage of his convictions and his bold determination that the commonplace should surrender to the artistic. His bold leadership in this direction gave heart to these, who also felt that the art-science could be brought to a higher plane, and who fell into the ranks to fight for excellence.

"Antagonized by the ignorant, he was followed by those who were ambitious to better themselves and their art. This influence extended throughout the country, and is felt to-day by many who do not realize or know to whom they are indebted; therefore be it

"*Resolved*, That realizing as we do that his life was well rounded out in years, reputation, and leadership, we join in sincere grief that inexorable time has claimed its own, and we hereby extend to his family our sincerest sympathy in their great sorrow. Family, friends, and art are alike bereaved."

AMERICAN MANUFACTURERS OF PAPERS FOR SENSITIZING. Referring to our article in the May number of the MAGAZINE, stating that the National Photo Paper and Chemical Co., of Springfield, Mass., was the first to use an American made paper in the manufacture of sensitized print-out papers, the American Photographic Paper Co., of Boston, writes that it has manufactured papers for this purpose since 1891, and has built up a large domestic and foreign business in this line. We make this correction with pleasure, having been under the impression that, previous to the introduction of the National papers, all attempts to use an American made paper for this purpose had ended in failure.

A FRAUD. During the first week or ten days of April a man giving his name as John W. Williams perpetrated a fraudulent photographic swindle in Harrisburg, Pa., by falsely pretending to be in the employ of a reputable photographer of that city.

His method of operating is to offer specially low rates as an inducement; that these rates are only for a short time; collects 50 cents on each order, and arranges a date at which time he will call at their homes to take the pictures; in this way canvasses the town or locality.

Description: Age about fifty; 5 feet 7 inches; weight 170 pounds; stout build; dark gray mixed moustache; dark complexion; fat full face; high forehead; fast, pleasant talker; wears a black soft or stiff hat and overcoat; carries a small sample case containing photographic samples; drinks to excess.

If any of our readers are aware of the whereabouts of this man they will oblige by notifying Mr. S. J. Anderson, Russ Building, Harrisburg, Pa.

J. M. APPLETON. Speaking of the work of this artist exhibited at the Cincinnati Museum of Fine Arts, the *Commercial Tribune* of that city says:

"An artist reflecting no school of past or present art, but a fresh, spirited, and beautiful interpretation of nature, is Mr. Appleton, of Dayton, O. His every picture is a work of art. He has no specialty. His men are pictured as men; his women have every grace; his child portraits reveal the child-nature perfectly. To a large, pictorial grasp of his subject he adds great technical refinement. To close the exhibition with his pictures leaves the im-

pression of the beauty of a fine art upon the mind."

JOHN BARTLETT. We are pleased to learn that our old friend and coworker, Mr. John Bartlett, has undertaken the editorship of the *American Journal of Photography*, succeeding Mr. Julius F. Sachse, who will devote himself to historical work. Mr. Bartlett has a facile pen, and his papers are marked by an attractive combination of fact and fancy. In a recent issue of the Philadelphia *Record* we observe an interesting *résumé* dealing with the various attempts made to solve the problem of photography in natural colors, written by Mr. Bartlett. It is a great advance on the usual run of photographic papers appearing in the public press.

D. O. ROOT, of Huron, South Dakota, has equipped a new gallery in his city and made an attractive display of his work at the opening. Mr. Root has an enviable reputation in his locality, the result of many years of earnest striving, and we congratulate him upon the success evidenced by the new establishment. The studio is fitted with ground-glass lights, and the various rooms are commodious and daintily furnished.

L. H. BISSELL, the President of the Illinois College of Photography, is the leading photographer of Effingham, Ill. The bas-relief process and x-ray photography are the latest specialties included in the photographic course of this useful institution, which recently graduated nine fully-fledged photographers.

W. J. LLOYD, of Wyalusing, Pa., is one of the hundreds of professional photographers who have taken up photo-engraving and added a process department to their regular business to great advantage. He has now a complete photo-engraving plant, and the photo-mechanical branch has proved to be more interesting and profitable than portraiture under the skylight. Mr. Lloyd gained his experience wholly from books and experiments. His success has grown to such proportions that his trade extends to several of the large cities of his State.

W. I. LINCOLN ADAMS, the president of The Scovill & Adams Co., of New York, has been elected a member of the Chamber of Commerce of New York. This is a well-deserved recognition of the ability displayed by Mr. Adams in the management of the great business given into his charge on the death of his father, Mr. W. Irving Adams.

MR. ERNEST EDWARDS, President of the Photogravure and Color Co. of this city has perfected a very compact camera for the making of animated photographs, and is taking up this line of work with much enthusiasm. The Edward's camera spool will accomodate 150 feet of film, and is fitted with many ingenious devices for its efficient operation. Its bulk does not exceed 15 x 15 x 8 inches, which is much less than the size of some of these instruments. The negative strips taken with this camera, shown to us by Mr. Edwards, are remarkable for their clearness and abundant detail in the images, resulting from facilities for ample exposure. The film perforating machine, also perfected by Mr. Edwards for this work, is a wonderful piece of mechanism, giving absolutely true perforations, the necessity of which is well understood by those familiar with the making of movement pictures.

TABER, the well-known photographer of San Francisco, has opened a bas-relief portrait studio in London. This specialty has attracted much attention in England, and relief portraits are rapidly becoming popular there.

J. A. Brush. *Minneapolis*

CHILD LIFE

THE CELORON CONVENTION.

PREPARATIONS for the National Convention are being pushed with vigor. The officers of the Association report that the success of last year's convention and the impetus given by the various State meetings have shown the fraternity the advantages of organization as a means to success in business. From present indications the attendance at Celoron in July will largely exceed the number present in 1896; the display of pictures promises to be at least as extensive and higher in quality of work; and an infusion of "new blood" is looked for as the result of the awakening of interest in the Association among many who have hitherto been indifferent toward it. In addition to the many profitable features made known to our readers in this and other numbers of the MAGAZINE, it is evident that the wonderful progress made by photography during the past year or two will bring a crowd of workers to the Convention to see the grand exhibition of work to be shown from the foremost portraitists of our country. The promised display of natural color photographs will undoubtedly persuade a number of photographers to visit Celoron, and the natural advantages of Lake Chautauqua as a place of recreation and holiday will also have an influence toward insuring the success of the Convention. When it is realized that the meetings will practically cover a week; that the art department will present the best work of the year from the leading galleries of every State of the Union, and that no more desirable place than Lake Chautauqua could be chosen for a holiday, it is difficult to find a reason for non-participation. Some, indeed, may find an obstacle in the expense attached to the trip, or in being so long away from business, but it will be obvious that the actual and practical benefits offered far outweigh these considerations. We urge all who can to make preparations for their attendance at Celoron between July 12th and 17th simply as an investment which cannot fail to produce profitable returns.

The subjoined letter from Mr. C. S. Abbott gives information concerning the railroad and hotel rates secured for conventioners.

JAMESTOWN, N. Y., May 10, 1897.

DEAR SIR: I beg to inform you that the railroad associations have authorized for the coming Chautauqua Convention the same rates as last year, namely, one fare for the round trip for all points west of Chautauqua Lake, and one fare and one-third from all points east of this point.

It will be remembered that the regular rates per mile are much higher West than East; one fare and one-third East is therefore equal in concession to one fare West. I will give you the amounts this rate figures, for the round trip, from the following principal points:

Boston, $14.20; Providence, R. I., $14.20; Albany, N. Y., $9.53; New York, $12.00; Philadelphia, $13.07; Baltimore, $15.20; Washington, $16.80; Toronto, Can., $6.96, all railroad; Toronto, Can., boat and rail, $5.55; Buffalo, $2.75; Pittsburg, $7.00; Cleveland, $4.25; Columbus, $8.40; Cincinnati, $11.00; Dayton, $9.80; Zanesville, O., $14.50; Detroit, $6.75; Grand Rapids, Mich., $11.58; Chicago, $12.00; St. Louis, $17.75; Indianapolis, $12.48.

The hotel rates will be as follows:

Greenhurst.

The Greenhurst, $2.50 per day.

Lakewood.

The Kent House, $2.50 per day.
The Waldemere, $2.50 per day.
The Saratoga Cottage, $2.00 per day.
The Cowing Cottage, $1.50 per day.

Jamestown.

The Sherman House, $2.00 to $2.50 per day.

The Humphrey House, $2.00 to $3.00 per day.

The Heyward House, $1.50 per day.

The Everett House, $2.00 per day.

Very truly yours,

C. S. ABBOTT,

Chairman R. R. and Hotels.

NOTICE TO EXHIBITORS.

All exhibits must be in Jamestown, N. Y., by the morning of July 10th. Positively no exhibit received after that date.

All exhibitors must fasten a card to the front of their exhibits, bearing their name, city or town, county and State, and the class for which the exhibit is intended.

Exhibits on which charges are not prepaid will not be accepted.

Be sure to put in your box, with exhibit, screw eyes and wire for hanging the same.

No exhibits will be allowed to be taken down at the close of the Convention by any one unless they have a permit from the First Vice-President. Heretofore, it is claimed, several pictures have gone astray. Under the above rule it will be impossible for any part of an exhibit or exhibits to be lost.

All exhibits must be framed, otherwise they will not be hung. In Class D, the twelve cabinets must be put into one frame.

If exhibitors will follow these instructions there will be no cause for complaint, and furthermore, we promise to have the Exhibition Hall open to one and all by Monday morning, July 12th.

Signed. J. WILL KELLMER,

First Vice President P. A. of A.

HAZLETON, PA.

THE CAMERA AMONG SPORTSMEN.

BY FREDERICK J. HARRISON.

THE principal value of the camera to the sportsman lies in its capacity to record with accuracy any object at which it is pointed. The artistic side of photography, requiring, as it does, more or less elaborate preparation, is of necessity neglected, and the so-called "snap-shot" camera, of little bulk and weight, is the apparatus with which the sportsman is usually provided. From such a camera, used as it generally is, under the most adverse conditions, too much is often expected. The fastest of plates are employed, the light is often of the feeblest kind, and the shutter is set at the maximum speed.

The subjects that appeal most to the sportsman are usually those that present the greatest difficulties to the photographer. The scenes about the camp, the product of the day's sport, an imaginary shot at a passing buck, are subjects that call for no particular skill from a technical point of view.

Plenty of time may be taken to choose a point of vantage, the subjects may be the product of some thought on the part of the operator, and the resulting picture may be of interest from an artistic standpoint, as well as from that of a simple record.

Too often, however, we see the greatest opportunities allowed to slip. Rugged guides are posed in stiff, awkward, about-to-be-photographed attitudes, and the whole outfit presents an appearance of suspended animation. Such a photograph represents waste of good material, possessing really no value even to the subjects themselves. Actual camp-life, with its accompanying duties, is interesting to look at, and photographs which really illustrate some phase of this life command immediate attention

and are souvenirs of real value. The aim should be to eliminate the consciousness of the presence of the camera from the minds of the subjects; to infuse some actual life and action into the picture and so to make the camera perform its real function—that of a recorder of actual events.

The most common type of pictures made by sportsmen is the product of a day's shooting or fishing. This class of photographs admits of little artistic treatment; it is merely a record of facts, made to gratify the pride of the sportsman.

There is another class of pictures, however, which though difficult to make, are valuable for many reasons. Animals in their habitats, unconscious of the presence of man, form an interesting study. The true sportsman is not content to simply shoot his prey; he loves to study the habits of the animals he hunts; to know their peculiarities. For pictures of this type a special form of apparatus is necessary. It is, of course, practically impossible to get close enough to the object to obtain a satisfactory picture with the ordinary camera and lens. Stories have been told of placing a camera in such a position that it was focussed on a certain spot, at which was placed a bait. The animal, seizing the bait, operated the shutter and perhaps a flash-light apparatus, and the picture was then secured. Such methods of operating will hardly answer, however, and involve many points of difficulty that need not be discussed.

The best apparatus is undoubtedly a camera permitting considerable extension and a tele-photographic attachment for the lens. With this apparatus a distant object of almost any size may be photographed. The camera must be placed on a firm support, the object focussed, the size desired being obtained by extending the camera bellows. Birds on nests, animals grazing, and other similar subjects may be photographed in sizes large enough to make them useful for study.

It is to be regretted that so few instantaneous pictures of animals in motion are shown. The sportsman is apt to prefer shooting with a more formidable weapon than a camera, and many excellent opportunities for work of this class are probably lost. The picture and the animal might both be secured had the sportsman a friend who would operate the camera. Such instantaneous pictures should only be attempted when conditions are right. A good light is absolutely necessary.

It is interesting to note the increased use of the camera by cyclists. The wheel furnishes an easy and pleasant means of reaching many picturesque spots, and the camera is easily carried and operated. While it is undoubtedly a fact that the bicycle for a time relegated the camera to the background, it is now evident that with the increased use of the wheel will come a more general use of the camera. Everywhere we see wheelmen with their cameras while the dealers in photographic supplies are making a specialty of folding cameras for this purpose and carrying cases for wheelmen.—*The Sportsman's Magazine.*

THE URANOTYPE.

At page 208 of our last issue we printed a letter concerning the probable origin of the new uranotype paper recently introduced in England. The following details relating to this paper will interest our readers. They are extracted from a lecture before the Croyden Microscopic Society:

The properties of this paper are quite unique. In some respects it resembles platinum paper, in the matter of color

carbon tissue; while in others it has peculiarities of its own, notably in that if kept long (unless in a calcium tube) after printing, the image entirely disappears, and the paper can be used for printing again, as though it had never been used before. Place the *dry* paper behind the negative in the frame, using a rubber backing, and print till all detail is visible (in sunlight by preference). It is better to overprint than underprint, as overprinting is easily remedied, but nothing can be done with an underprinted picture. If the prints cannot be developed at once (the same day), keep them in a calcium tube till they can be. If the printing has gone too far, there are three ways of correcting this. *Before* development the prints may be kept for two, three, or four days, as mentioned above, when spontaneously they will go back. *After* development, when you can be quite sure about the over-exposure, reduction may be effected, either by washing in plain water, or if *very much* over-exposed, by the addition of a mere trace, say one minim in half a pint of 0.880 ammonia to the washing water till the desired effect is produced. After printing wash the prints for, say, ten minutes in several changes of water, but not in running water, and proceed to develop, either by gaslight or weak daylight. Take potassium ferricyanide 1 ounce, water 8 ounces; this may be brushed over the prints, or used in a dish, and gives a clear bright Bartolozzi red. Glycerine may be used here (as in platinotype) as a restrainer, or for local development; and by further dilution the developer is kept more under control, and a softer result is obtained. If a red print, previously well washed in water acidulated with citric acid, is brushed over with a solution containing 60 grains of sulphate of iron in 6 ounces of water, it slowly changes to sepia, then to olive-green, and, finally, to art-green; and can be stopped at either of those points by immersion in the fixing bath, which is a 10 per cent. solution of citric acid. If a red print is brushed over with a solution containing 60 grains of nitrate of cobalt, and 60 grains of sulphate of iron in 2 ounces of water, then a green color is obtained. A green print may be turned into a blue one by the agency of glacial acetic, nitric, or hydrochloric acid. Purple tones may be got by over-exposure, well washing, and a solution of 4 grains to the ounce of gold chloride. Several colors may be obtained in one print by the judicious choice of developers; thus it is obviously possible to obtain a blue for the sky, a green for the sea, and a reddish-brown for buildings surrounded by green foliage; in fact, by no other process at present known can such a variety of results be obtained. An interesting discussion followed the demonstration.

Uranotype paper is manufactured by The Cresco-Fylma & Hannam, Ltd., 72 Gray's Inn Rd., W. C. London. It is not yet obtainable in this country.

DEVELOPMENT OF KINETOGRAPH FILMS.

THE development of the long lengths of film that are now used so largely for the production of the so-called animated photographs has become of such importance that a few words upon the practical manipulation of them may be of interest to those who contemplate purchasing one of the numerous cameras for producing them that are now upon the market. The length varies from 40 to 80 feet, the former length being the most used. These contain from 600 to 1200 pictures, and are taken upon a negative emulsion coated upon matt-surfaced celluloid of about 1⅜″ width. The

greatest difficulty lies in obtaining uniform density throughout, and also freedom from stain, these being two very important considerations. The most convenient method to employ is as follows: Have made a frame of wood like the sides of a box, without top or bottom, about 18″ by 21″ by 2″, the longer sides of which must be well rounded and smoothed, and the whole soaked in paraffin wax; the film is wound around this spirally, the above size taking a 40-feet film, and the ends fastened by means of drawing pins. The whole is immersed in a tray of the following size, 20″ by 23″ by 3″, and containing the developer; ¼″ blocks must be placed upon the frame to prevent the film from coming in contact with the bottom of the tray, which should also be well paraffined. The whole of the operations are carried out while the film is still upon the frame, and upon which it is left to dry. The developer recommended for the Blair film, and which gives very good results with the Eastman film, is as follows:

Metol	50 grains.
Hydrokinone	50 "
Sodium Sulphite	1½ ounce.
Sodium Carbonate	1 "
Potassium Bromide	20 grains.
Water	30 ounces.

About three gallons of developer will be required, but it may be used again and again if kept from the air when not in use, and if too energetic may be diluted. This developer gives very clean negatives, and is rapid; the metol must be dissolved in water before the sulphite is added, and plenty of water must be used when first made, or else the hydrokinone may be precipitated. The negatives are printed upon another strip of film by means of a special machine depending upon the type of machine employed for the taking and the projecting. The film used can be a slow bromide or a special positive chloride film, as made by the Blair Company; this is coated upon transparent celluloid, and gives warm tones varying with the exposure and development, and being much slower than the negative film, more light may be employed for development; but, as the film does not adhere so tenaciously to the transparent celluloid as to the matt surface as used for the negative film, more care must be used in handling. The following developer is recommended, the former not being so suitable:

A.

Hydrokinone	15 grains.
Sodium Sulphite	75 "
Water	5 ounces.

B.

Potassium Carbonate	90 grains.
Water	5 ounces.

C.

10 per cent. Solution of Potassium Bromide.

For use take equal parts of A and B, and a few minims of C. The development should not be protracted, else the highlights are liable to veil, and thus destroy the brilliancy, to obtain which it is in some cases advisable to slightly under expose. The fixing of both films must be conducted in a separate tray, made to contain the frame and film. Hypo should be about 4 ounces to 20 of water; the washing should be about twenty minutes in running water, and the films, before drying, should be soaked in a 4 per cent. solution of glycerine, to prevent the gelatine drying horny. The films should not be allowed to remain in more than a few minutes, else they will dry "tacky."—*News.*

WE desire the opinions of practical photographers regarding Mr. GEORGE B. SPERRY'S article on "A Trade Printing-house," in our April issue, and offer a year's subscription to the MAGAZINE for the most useful paper received on the subject. Let us have a ready response.

NOTES ON VELOX PRINTING.

EXPOSURE AND DEVELOPMENT.

THE best negative for printing on Velox paper is one which presents detail and vigor in the half-tones without overmuch contrast or softness. By modification of the exposure and developer, however, beautiful prints may be secured from the softest or most strongly contrasting negatives. In these notes it is supposed that a suitable negative has been obtained, and that the meto-quinol developer as introduced in powdered form by the Nepera Chemical Co. is to be used.

If the time of exposure has been correct, the image will slowly appear, after a few minutes, faintly yellow and gradually reddening until it has acquired sufficient strength and all details have appeared.

If the exposure has been too short, or if the developer is too weak, the image will develop much more slowly, and before all details have appeared the color of the print will become darker and darker and will result in dark violet or dirty black, unpleasant tones, usually with yellow stains.

If the exposure has been too long, the image will develop quickly, but will be flat and lack vigor, although it may have the desired red color.

The image should be of a cherry-purple tint or violet-purple if the exposure has been correct and the developer is in good condition.

For obtaining a "soft" print increase the time of exposure; for more contrast do the reverse.

Avoid over-exposure, or the print will be flat and weak.

The operation of developing can be watched perfectly in a liberal supply of gaslight or in subdued daylight.

The developer may be used over and over until exhausted, and will keep in excellent working order by strengthening now and then with new developer or stock solution. In fact, a developer that has been used for some time generally works more regularly than an entirely fresh bath. If the temperature of the developer should fall below 60° F. in winter, it will act too slowly.

Dilute the developer if the print comes too quickly; the image should only begin to appear two or three minutes after immersion in the developer. Slow development gives the best results.

The stock solution of developer (made by dissolving the contents of one tin in one pint of water) may be diluted from eight to sixteen times, and even to thirty-two times, in order to insure the desired slow development; you can never obtain as good results with entirely fresh developer as with developer that has been already used.

After a print has been developed enough throw it into a dish containing a "short stop" made up of water, with enough acetic acid added to render it decidedly acid.

The print should remain in this bath for two or three seconds; then transfer it to

The Hypo-alum Bath.

Dissolve cold

Powdered Alum . . .	3 ounces.
Hypo	10 "
In water	50 "

This bath is intended to fix the prints and to give them their final tone. As soon as the prints enter the hypo-alum bath they become yellow, then they turn orange, reddish, and finally purplish or black. After the desired tone is obtained remove them to the washing tank.

Do not forget that the prints darken very much in drying, therefore toning should be stopped while they are still much warmer in tone than desired.

Hypo-alum when too fresh will not work well; it will soon become milky and tend to bleach the prints. It is in better condition after standing a few days, when the milky precipitate has had time to settle so as to allow the clear liquid to be decanted.

This hypo-alum works best after several prints have been fixed in it, so that there is silver in the solution. Hence an entirely new bath will be much improved by soaking in it some strips of silver paper or by adding a small quantity of silver nitrate solution. Do not use too much silver, otherwise you may not be able to wash it out. Should this be the case, the dry prints, when applied to the tongue, will have a sweet taste on account of retained silver. This is a simple test, and one that may be relied upon.

OPTICAL LANTERNS.

BY JEX BARDWELL.

For many years England has held supremacy in all that regards the optical lantern and its appliances, and in some respects holds it yet. An English first-class triple lantern is a large, heavy, and a very costly affair. For instance, a Premier Triple Lantern costs £160; a Premier Biunial Lantern costs £105; a Perfect Biunial Lantern costs £73 10s.; the Docwra Triple Lantern, with jets and lenses, costs £213 12s.; and the Docwra Biunial Lantern costs £122. This is from $400 to $1070, not counting duty.

It is also true that very cheap lanterns can be obtained; but in order to produce effects a "triple" is necessary, and as an English audience is very fond of admiring the instrument used, a good deal of ornamental work is placed upon it, sometimes regardless of cost, much of which is of no use as far as the result on the screen is concerned. They use effect slides and well regulated and selected dissolving views, not used here as a general thing, and in order to give these properly the lantern has to have perfect registration and suitable slide stages, with other appliances to produce certain mechanical effects, which many American lanterns are not provided with. The American lecturer generally contents himself with a set of slides on travels in foreign parts, sometimes including California and the Yellowstone Park. The framed slide is 4 x 7 inches and very thin; for this straight work there is no better lantern made than our biunial, known as a stereopticon. These are well and substantially made, no heavier than is necessary for stability, and are set up all ready to work in less than five minutes. My stereopticon or biunial weighs less than thirty pounds, and is as solid as a rock, has open slide stage top and bottom, with curtain slide, and will take a framed slide 7 x 5 and an inch thick, as may be necessary for some complicated mechanical effect slides. It was made in New York, and for satisfactory work I would not exchange it for the most costly lantern made. One American firm has adopted a plan for the quick removal of a cracked condenser, an accident which may happen to the most careful of operators. The removal is effected without displacing the jet or slide stage. Some such plan ought to be adopted in all lanterns. Another improvement desirable would be provision for the taking out of the back lens of the condenser (the one nearest the jet), and replacing it with a lens of longer focus to be used when working with a long focus objective. This gives better results and is less liable to crack. In place of the high pressure dissolver, I advocate the use

of the automatic gas regulator. By using taps or valves on your jets you can better regulate the quality of light in each lantern, be it two or three, and obtain a uniform pressure of gas without trouble from the beginning to the end.

Our English cousins have an improved system of working their objectives; there is affixed to the lantern a mount or jacket with rack and pinion. Into this jacket can be placed any objective from 4 to 14 inches focus, and the change may be made instantly, as the objectives of different focus are placed in tubes of one size, all fitting into the jacket. I understand that the celebrated opticians, Bausch & Lomb, of Rochester, will soon place on the market a set of lantern objectives fitted after this plan, made in the following sizes, $\frac{1}{4}$, $\frac{1}{8}$, $\frac{1}{2}$, $\frac{3}{8}$, and $\frac{4}{4}$, all of which fit an adjustable mount. The lenses are formulated to give extreme sharpness of definition and flatness of field over the full field of view. I shall have an opportunity to test their work soon; but that I think is needless, as this firm is known to turn out nothing but the best instruments.

The caps of most lenses are lined with black velvet, and it is sometimes desirable to cap an objective while the light is still turned on; by inserting a piece of white cardboard in front of the black velvet, the heat passing through the objective will have no effect on it. While quoting the prices of best English lanterns, it is only justice to say that a good plain English biunial lantern can be bought there for £20, equal to $100. An American biunial that will do as good work as any made, with two pairs of objectives, dissolving key and jets, can be had for less than $175. I would like to say a few words about jets, regulators, and dissolving keys, but it would necessitate some drawings to make my remarks clear. This I may do at a future time.

NOTE. Since writing the above I have had an opportnnity to test Bausch & Lomb's optical lantern objectives. They were a pair of half-size, of $2\frac{3}{8}$ inch diameter. The disk on the screen was 22 feet in diameter. The test was perfectly satisfactory, the illumination was even, the image sharp and clean to the edge, and the field flat. The depth of focus was not taken into account, as it is the business of the operator to see that the four corners of his screen are at an equal distance from his objective. I know nothing as regards the cost of these objectives, but in regard to their good quality they prove conclusively that no one need go abroad for a first-class objective for projection purposes.

THE PHOTOGRAPHER AND HIS TRADE PAPERS.

BY DR. H. C. STIEFEL.

SEATED in a drug-store a few weeks ago I filled in an hour's wait by reading a few pharmaceutical publications that happened to be lying about. I read listlessly along through the opening pages of *The National Druggist*, read all about non-secret patent medicines; about the ownership of the prescription; became interested when I reached "The Sneeze and its Diagnostic Value," and became decidedly interested when I reached "Questions and Answers." "So, so," said I "these druggists are not like the——, ahem, other people; they admit that they do not know everything.

Before going any further, let us see what the average druggist must do in the way of study before he becomes a full-fledged pill-roller. He must first pass four years as assistant clerk in a drug-store; during this period he generally attends some college

of pharmacy, if there be one in the vicinity, and gets a very fair knowledge of chemistry, botany, *materia medica*, etc. After having had, at the lowest, four years' practical work in the drug-store the young man goes before the State Examining Board, which puts him through a pretty severe examination as to his practical and theoretical knowledge of the drug business. If he passes this examination, he receives a certificate entitling him to practise pharmacy.

Now, after four years' practical work in the drug-store and, say, a year or two at some college of pharmacy, there are still plenty of druggists who are willing to admit that there are some things that they do not know, and are willing to ask for information.

Thus, in *The National Druggist* for May I find some two dozen different questions asked and answered. One wants to know how to make rose-water; another asks for information about decandrin; a third desires information about syrup of cubebs compound, and a fourth sends in a prescription with the remark that it seems somewhat out of the ordinary, and asks for information regarding filling it.

In *The Druggists' Circular* for May I find thirty-five questions relating to as many different pharmaceutical topics, asked and answered. From all this I saw that the average druggist is willing to ask for information; more than this, I saw that this one particular druggist subscribed for at least two trade journals. Upon inquiring I found that he subscribed for three different pharmaceutical monthlies.

This started me upon a new train of thought, in consequence of which I took a long walk one morning over the city and called upon forty different druggists. Of these forty, *all* subscribed for at least one trade journal, twenty-one received two, and thirteen subscribed for three, and they all considered the money well spent.

And the point of it all? Well, go into the first forty photograph galleries you come to, and see if the proprietor knows all about photography, or if he is willing to ask for advice now and then. Out of these forty how many subscribe for a reliable photographic publication to keep themselves posted upon the progress made from month to month in photographic work?

Of course, the demonstrators carry about and distribute much valuable information, but it is self-evident that the information imparted by a demonstrator will never be as impartial as that imparted through the columns of a reliable publication. The point comes here: Subscribe for as many of the journals devoted to your profession as possible; but, in any event, see that you get the best, if you can only manage to take one.

THE PORTRAIT RENAISSANCE.

BY GEORGE B. SPERRY.

When a leading magazine in a department called "Some Examples of Recent Art," regularly reproduces photographs for the purpose in question, and when photographers reserve to themselves the right to decide upon the size of the portrait they furnish their patrons, to say whether it shall be a bust or a figure pose, and to say that the style of the mount and the finish of the print must be left to their taste and judgment, then we must admit that a portrait rennaissance is upon us.

Another magazine devotes its frontispiece and leading pages to the work of a noted photographer. Those interested in the artistic development of the photo-

graphic portrait will find the reproductions accompanying the above article (May number *McClure's Magazine*) most interesting for study. They represent the highest type of portraiture. They are in line with the recent awakening, and yet some of these portraits are many years old. Possibly not a dozen photographers ever saw or heard of them before. They represent no system of lighting. They are simply *soul* portraits. To the great detriment of artistic advancement, the impression has grown more or less general that the artistic excellence of the portrait is mainly dependent upon the lighting. Photography is burdened with the common-place repetitions of those who are aping others. A thorough knowledge of lighting and its effects is part of the training of the photographer—a mere detail, so well understood that even as he uses his knowledge he forgets that he has it, just as the trained orator forgets that the wave of his hand must conform to the emotion he is portraying. The artist is an individual thinker who has such complete control of the technique of his profession as to be able to express what he has in mind. If the photographer can see no *soul* in his model; if his conception does not reach beyond light and shade, he can be just as artistic as his camera, no more. To awaken that soul, to touch the keys of harmony, to see the face kindle and the eyes glow with intelligence, is a result worth every effort. Can he of the brush catch those subtle gleams that come and go as flashes? If it be the aim in the personal portrait to represent the inner consciousness of the sitter, then the sensitive film is a better tool than the brush, and the user of the former can be as great an artist as the user of the latter, if he be as great a man.

A TRADE PRINTING-HOUSE.[1]

THE article on this subject by Mr. George B. Sperry proved a most interesting one to me, and I have been at the point of writing you about it on several occasions. It seems to me to be the happiest idea for the advancement of our art that has been proposed for many a day. Since the time (not many years ago) when the photographer silvered his own paper, and each and every one of us had a different theory about silver baths, fuming, etc., we have made giant strides in the direction of separating the art from the trade of photography. Nevertheless the multiplicity of new processes of printing which must be carried on in an up-to-date gallery form a source of almost continual worriment to the man who in most cases is supposed to be giving all his thought and care to the production of artistic negatives under the skylight. The experience of a very few weeks, however, will convince one that he must be in a condition of everlasting vigilance concerning his printing-room, or Mrs. Smith's picture will not be printed on the right shade of carbon-tissue, and Mr. Jones will get black and white platinotypes instead of sepias, as he ordered, etc. We all know how it is. Oh, yes; but the printer tells you he is out of that particular shade of tissue, and the platinotype-sepia bath is not working well, and the platino paper has not come for those large groups which must be out to-morrow, and the gelatine paper works so soft that you must try another brand, as the prints which you have promised for to-morrow have "gone up" in the toning-bath; and just then you are called into the operating-room to make an

[1] Number one of a series of letters from photographers as to the scheme for a trade printing-house, suggested by Mr. George B. Sperry, at page 185 of the April number of this MAGAZINE.

artistic (?) picture of the special subject you have been hoping to get for the last six months! I say this is all wrong. Why should the artist behind the camera have the manipulation of a lot of fussy processes continually haunting him? I know of no other trade or profession in which a man is supposed to throw himself into his work to the extent one must to secure artistic things; where he must also have such an ever-watchful care regarding the handling of a lot of delicate work entirely foreign to his own work in hand. To get rid of this bother seems to me to be the greatest advantage of the idea.

We are engaged in a profession of great variance as regards the different seasons of the year. Taking as an instance a man who can barely get out his work during the holiday rush with six assistants, he could in ordinary places run his studio with four the rest of the year, and perhaps barely keep two busy for two or three of the twelve months. What is he to do? Inexperienced assistants, we all know, are worse than useless. Even a new man who has had years of experience is of little value until he has learned your ways and "found himself" in the studio. Yet to carry a large force of experienced people for several months in the year when half as many would do better work is certainly expensive beyond all reason, and tells far too heavily upon the cash accounts of most of us, I fear, to be called good business management.

Then we must all have a place large enough to accommodate the largest day's work of the year, and hence pay rent for unnecessary space in a building which, because it must be centrally located, clean, accessible, and with a good entrance, costs a good bit for rent, while half the space would serve better much of the time. This, of course, could be avoided in the "trade printing-house," which would be better located out of the way of the dust and smoke of the city than in it. A man could go out from the printing-house every morning and make the rounds of the galleries, to collect negatives which the photographer could have ready, with full directions, each in its envelope properly marked.

In the trade printing-house an expert in each kind of work could devote his entire attention to the production of the very best that particular process was capable of. Under his immediate direction inexpensive help could do much of the rough work that now must be done by the same hand which must be sufficiently expert to print and develop a carbon properly. This would allow the carrying of a large force by the printing-house in busy seasons, while in dull months this force could be materially cut down with the knowledge that the work would not suffer in consequence, as the expert would still remain.

The photographer with his reception-, operating-, and dark-rooms only would have so much better chance of developing into an artist than he who must give half or more of his attention to mechanical and chemical work. Separate the art of photography from the trade of photography, and each will be the better for it. The photographer with his mind clear of all fussy hindrances of the printing and finishing department is indeed ready for his sitters. The idea impresses me most favorably, and the "trade printing-house" will have no more enthusiastic supporter than

Yours truly,

ROBERT E. WESTCOTT.

A FEW sets of the Falk Photographic Studies, series 1 and 2, as well as the third series of photographic studies by Schumacher, of Los Angeles, may still be had. These will not be reprinted, and early application should be made by those desiring sets. The price is $1 per set, postpaid.

SOME RECENT PHOTOGRAPHIC PATENTS.

We have arranged with Messrs. Alexander & Davis, Patent Attorneys, of Washington, D. C., to supply a monthly report of patents relating to photography, granted and expiring each month. This information will doubtless prove of interest to our readers. Copies of these patents may be secured at any time from the above firm, at 10 cents each.

Patents Granted during May.

Automatic Photographing Machine. J. F. Raders, New York, assignor to the Automatic Photographic Machine Co. of Virginia. No. 581,988. Issued May 4, 1897.

The invention covered by this patent has for its object the production of an automatic photographing machine in which the action of the various operative mechanisms is in part controlled by a suitable fluid under pressure as distinguished from rigid connections.

It further provides, in combination with the foregoing, a motor of any suitable construction which is adapted to so control and regulate the flow of the fluid under pressure to the various operative parts that the latter shall perform their several functions in their proper sequence. Means are also provided by which the operative parts of the machine are set in motion by the insertion of a coin of proper value.

It embodies in its construction a magazine for the plates, a device for feeding the plates to the plate-holder; a shutter; a gripping mechanism whereby the plate is held and lowered into the developing-bath, held there a sufficient time, and is then raised; means for moving the developing-bath and bring the fixing-bath under the plate, and then lowering the plate into the fixing-bath; means for removing the fixing-bath and bringing the washing-bath under the plate, and then lowering the plate into it, and means for discharging the completed picture from the device. Air is admitted under pressure to the devices which perform these various functions, the valves admitting the air to the devices being automatically operated at the proper instant by a suitable motor arranged within the casing.

Photographic Shutter. W. V. Esmond, New York, assignor to E. & H. T. Anthony & Co. No. 581,984. Issued May 4, 1897.

In this device an ordinary lens-tube provided with a rotating shutter at its inner end is employed. Secured eccentrically to the shutter is one end of a piston-rod whose other end is secured to a piston working in a small cylinder. A spring is in the cylinder, and normally holds the piston withdrawn within the cylinder and the shutter closed. A bulb of the usual construction is connected to the cylinder, and when the bulb is compressed the air-pressure forces the piston out against the spring and rotates the shutter. When the point at which the piston is attached to the shutter passes the dead-centre of the shutter the spring within the cylinder quickly forces the piston back within the cylinder and completes the rotation of the shutter.

For time-exposures pivoted latches are employed which may be arranged to stop the shutter at the full open, and are released by hand to complete the exposure.

Tripod Stand for Camera. W. F. Carlton, Rochester, N. Y. No. 581,808. Issued May 4, 1897.

The improvements covered by this patent relate to the construction of the collapsible legs of a tripod for photographic cameras and the like, and to the construction of the tripod-head; the object of the improvements is to enable the legs to be nested into compact shape; to maintain the legs firmly in place when in use; and to furnish effective means for holding the camera on the tripod-head.

Photographic Printing-frame. T. B. Perkins, Grand Rapids, Mich. No. 581,831. Issued May 4, 1897.

This invention relates to improvements in photographic printing-frames; its objects are to provide means for accurately registering the paper upon the image in the negative, for adjusting and holding the negative to the openings in the frames, and to provide a frame adapted to various sizes of negatives, and also for printing from films which are separated or in connected strips.

It consists of two frames hinged together, one of them being formed with an opening the size of the print to be made, and the other with an opening the size of the paper to be printed. The adjacent faces of these frames are covered with elastic facings, which surround the openings therein. The negative is placed on the elastic material and over the print opening, and the frames are then secured together. The paper is placed in the paper opening, and the usual pressure back is employed to press it against the negative. The negative may

be shifted on the elastic to secure its proper position over the print opening, as there are no flanges to retain it in a fixed position. In this manner the picture may be located on any desired spot on the printing paper. As the surface upon which the negative rests is flat, strips of films may be printed from each end of the film projecting beyond the edges of the frame.

TRIPOD STAND FOR CAMERAS. F. S. Bouton, Rochester, N. Y., assignor to W. F. Carlton, of the same city. No. 581,806. Issued May 4, 1897.

This invention relates to portable tripod-stands intended more particularly for supporting photographic cameras, such stands being separable and collapsible, so as to be capacitated for being disposed in small compass for convenience in carrying; and the invention consists in improved means for preventing the accidental disengagement of the tripod-legs from the tripod-head during use.

The tripod-head and the collapsible legs may be of any ordinary construction, but adjacent the pivot of each leg the head is recessed on its inner side, and the upper end of each leg fits within the adjacent recess of the head when the tripod is set up for used, and is held against lateral movement on the pivot, and, consequently, is retained on its pivot.

The legs can be detached from the tripod-head only when they are turned to a position approximately parallel with the tripod-head, or to such an angle therewith which they never occupy when in use. In this manner simple, inexpensive, and efficient means are provided, absolutely preventing disengagement of the legs from the head when the tripod is in use, and, nevertheless, permitting the ready and convenient detachment of the legs from the head at will.

PHOTOGRAPHIC SHUTTER. John A. Mosher, Chicago. No. 582,219. Issued May 11, 1897.

The object of the invention is to provide improved means for actuating a shutter without preliminary setting, the shutter being at all times ready for action. This is accomplished by means of a spring, substantially U-shaped, pivotally connected at its ends to reciprocating parts which move in approximately parallel paths, the path of the one to which power is applied being longer and overlapping at each end the path of the other part, by means of which the movement is transmitted.

KINETOGRAPHIC CAMERA. A. F. Parnaland, Paris, France. No. 582,311. Issued May 11, 1897.

The apparatus forming the subject-matter of this patent is destined to be used as a cronophotographic apparatus for registering or recording different movements or positions of subjects in action, as well as for the projection of such scenes, in order to give an illusion of movement.

The essential features of the mechanism are the usual lens; a roll of film; a mechanism for intermittingly moving the film over the lens opening; opening the shutter while that film is at rest; moving the film a distance equal to the length of the picture while the shutter is closed. The shutter vibrates constantly, and the mechanism for moving the film is operated by any suitable motor. The film is provided with eyelets which are engaged by pins in a positively rotated roller, so that there cannot be any slip of the film, and a positive and steady movement thereof is assured.

PHOTOGRAPHIC PRINT-MOUNTING APPARATUS. M. J. Steffens, Chicago, assignor to the Chicago Photo-stock Co. of Chicago. No. 582,379. Issued May 11, 1897.

This device consists of a table; a very heavy pressure-roller is mounted to roll back and forth thereon; a blanket is secured to one end of the table, and passing under the table, its other end being mounted on a spring curtain-roller which is carried by the frame in which the pressure roller is mounted. The prints are placed on the table and the roller is moved over them, the blanket being unrolled from the spring-roller as the pressure-roller moves forward. As this roller is moved backward the blanket is automatically rolled up on the spring-roller. The pressure-roller is guided to prevent any lateral movement.

PHOTOGRAPHIC SHUTTER. C. D. Durnforth, London, England. No. 582,189. Issued May 11, 1897.

The object of this improvement is to secure, as far as practicable, an exposure of all parts of a photographic plate, under the proper conditions, for producing a perfect photograph of all parts of a landscape or other object.

To this end it consists in the combination with a photographic camera of a screen or diaphragm provided with an opening which varies in size during the exposure of a photographic plate, and a shield which moves in proper relation to the change of the opening in the screen or diaphragm, and thereby shields the lens variably, so that the light-rays may from time to time operate to the best effect.

The diaphragm works vertically through the lens-tube, and the shield is pivoted at the forward

end of the tube and closes over its end. The shield and diaphragm are connected and move in such relation to each other so that when the greatest amount of light is being admitted by the shield, the smallest part of the opening in the diaphragm is in front of the lens, and the reverse.

PATENTS EXPIRED.

No. 226,383. Photo Relief Engraving. G. C. Bell, New York City.

226,391. Picture Frame Backing. L. A. Dunther, Buffalo, N. Y.

226,445. Photograph Stand and Album. L. Dubernet, San Francisco, Cal.

No. 226,503. Method and Apparatus for Elevating Plates for use in Photographic Cameras. G. Eastman, Rochester, N. Y.

226,521. Photograph Burnisher. W. W. Jenks, Blue Mound, Ill.

226,760. Method of Tinting Photographs. W. Kurtz, New York.

226,762. Attachment for Picture Frames. J. W. Lacchar, Albany, N. Y.

228,134. Photographic Plate-holder B. F. Spilman. A magazine plate-holder for attachment to cameras, for changing plates, etc.

EDITOR'S TABLE.

BEWARE OF THE THIEF.—MESSRS. ROSE & CO., of Denver, report the disappearance of an employé, John Ordshoom, twenty-eight years of age, a Hollander, from Chicago. With Ordshoom's disappearance three lenses were missed, valued at $350; they were found at a local pawnbroker's and recovered by the police. We have a photograph of the man if our readers have any use for it.

PHOTOGRAPHIC AMUSEMENTS.—By WALTER E. WOODBURY, editor of the *Photographic Times*. Published by the SCOVILL & ADAMS CO., of New York. This popular handbook, detailing the many ways by which photography may be utilized for entertainment, the production of magic pictures, freaks, etc., has reached its second edition. It is the only book of its kind published in this country, and is full of interesting and curious information.

THE EUREKA RIBBON FILM for vitascope, biopticon, kinematograph, and similar machines producing and projecting the new animated photographs, is rapidly attaining a wide popularity. It is manufactured by Mr. JOHN CARBUTT, Wayne Junction, Philadelphia, who reports that the capacity of his factory is fully taxed to supply orders for the film.

We have received six beautiful specimens of portraiture from the studio of Mr. D. D. SPELLMAN, Springfield, Ohio. The pictures are printed in dark-green carbon and are very effective in appearance. We congratulate Mr. SPELLMAN on his substantial progress in his profession, and will present the pictures in a future issue of the MAGAZINE.

THE PROFESSIONAL PHOTOGRAPHERS' CLUB, of Philadelphia, is a new organization composed of about thirty-five of the photographers of Philadelphia (chiefly employés). The club has finely equipped quarters of its own at 113 North Twelfth Street, and aims to develop into a scientific or technical society rather than social. The new society, which will, we are sure, prove a great advantage to all photographers becoming members, has already produced a good effect, and we would urge all who can to associate themselves with it. A file of this MAGAZINE and our publications may be found at the club-rooms.

MR. HERBERT E. WATKIN, of Scarborough, England, sends us a choice selection of his portrait work, which we will notice at greater length hereafter. He desires to exchange specimens of work with prominent American photographers. His address is Grand Studio, Marine Parade.

PHOTOGRAPHERS who are in need of fine engravings for their customers, or for personal use in business, will do well to apply to the Albany Engraving Co., Albany, N. Y., for their latest catalogue of specimens, a copy of which has just reached us. The line and half-tone work there shown is of the finest quality and honors the engravers.

AMONG THE PRIZE EXHIBITS at the Indiana Convention the portraiture of D. GILBERT, Frankfort, Ind., was conspicuous for its good qualities. We hope shortly to reproduce a few selected examples of Mr. GILBERT'S work in our pages.

ART IN LANTERN SLIDES is the title of an unusually interesting work on lantern slides and projection, by FREDERIC DILLAYE; published by L. GAUMONT ET CIE, 57 Rue St. Roche, Paris, France. The book, which is profusely illustrated with collotypes of selected slides, is one which every lanternist should have. It is written in French.

MESSRS. ROSS & CO., opticians, 111 New Bond Street, London, send us their little catalogues of the Ross Patent Science Lantern, Ross Film Hand Camera, Ross-Zeiss Convertible Anastigmats, the new Ross-Hepworth Arc Lamp, and the Ross Photoscope. These specialties are all well known as leaders in their class, and may be obtained in this country from Mr. G. GENNERT, 24 East Thirteenth Street, New York, the American agent for the Ross Lenses and Specialties.

THE NATIONAL PHOTO SALON inaugurated by the National Photo Paper and Chemical Co., Springfield, Mass., promises to be a complete success. A great many of the leading amateur and professional photographers of our principal States are already entered for competition, and the display, which will be exhibited at the Celoron Convention, will be one of much attractiveness. Full particulars may be obtained from the National P. P. & C. Company.

AN OPPORTUNITY to secure a Ross-Goerz lens at a bargain figure, and at the same time do an act of good-will, may be found in the advertisement of Mrs. G. H. CUNNINGHAM on the "Specialties" page of this issue. Mrs. CUNNINGHAM recently lost her husband, a respected Brooklyn photographer, and is obliged to sell the instrument advertised as speedily as possible. We have examined the lens and can testify that it is in first-class condition save that the flange by which it is secured to the camera when in use is missing. This, however, does not affect the value of the lens, which is a genuine bargain. Mrs. CUNNINGHAM may be addressed care of Mrs. H. E. HEPPE, 52 West 105th Street, N. Y.

MR. J. E. GIFFIN, late with DANA, of New York, has bought the gallery and business of Mr. T. H. HIGGINS, Twelfth Street, Wheeling, W. Va.

"PHOTOGRAVURE BOARD," the new print-out paper introduced by the National Photo Paper and Chemical Co., Springfield, Mass., has met with a very favorable reception from professional and amateur photographers. We have seen two prints on this board which deserve mention. One is finished to simulate the effect of a print in carbon on celluloid; the other has a dull finish with a canvas-like texture. Both effects are novel and show the possibilities of the *Board* in an attractive way.

GELATINES FOR PHOTOGRAPHIC PURPOSES.—For the convenience of those of our readers who find difficulty in securing supplies of gelatine for emulsion and photographic purposes, we may state that Messrs. Chas. Cooper & Co., 194 Worth Street, New York, stock Nelson's Nos. 1, 1 shredded, and 3; Heinrich's Gold Label and Emulsion brands; Coignet's Gold and Silver Label brands, and Cox's. We notice that in Messrs. Cooper & Co.'s latest chemical list pyrogallic acid is stated at 27 cents per ounce; hydrochinon at 22 cents per ounce; and eikonogen at 37 cents.

WILHELM KNAPP, Halle, A. S., Germany, has just published in portfolio form a collection of half-tone engravings from photographs by CH. SCOLIK, of Vienna. These pictures show sixteen different varieties of vignettes with fancy borders artistic and daintily effective, and the work is one likely to prove extremely suggestive to professional photographers. The price is 4 marks (in Germany).

A LENS STOLEN.—Mr. GEORGE H. ROCKWOOD, 558 Boulevard (near 87th Street), New York, offers $15 reward for return of the No. 1 Dallmeyer W. A. lens, No. 53,083, recently stolen from his gallery.

AN ENTERPRISING STOCKHOUSE worthy of the patronage of our readers in the Middle Western States is that of Mr. MARTIN G. GOOD, 92 State Street, Chicago. Although only recently established in business, Mr. GOOD has built up a first-class connection by giving his patrons a careful and intelligent service. His stock includes the best of apparatus and supplies needed by professional and amateur photographers, and special attention is devoted to mail orders and correspondence. Technical advice is given when desired, and a dark-room is always at the disposal of visitors. We can speak from experience of Mr. GOOD's courtesy and promptness in his dealings.

THE SUNSET and landscape pictures by Mr. L. V. KUPPER, which beautify this number of the MAGAZINE, were made on the Cramer plate, which Mr. KUPPER says is unexcelled for work of this kind.

MESSRS. ALLEN BROS., 247 Jefferson Avenue, Detroit, Mich., announce a new and attractive line of mounts, matts, and medallions of their own manufacture, specially adapted for displays at the conventions, or for the show-case, or for attracting a better priced class of work. They offer to send a small assortment on approval where desired, to introduce these specialties. Exhibitors at the State and national conventions should make a note of this item.

TO THE PHOTOGRAPHERS OF PENNSYLVANIA.—The 1898 Convention of the Pennsylvania Association will soon begin to shape itself. The Executive Committee will meet in a few weeks and arrange details for the second annual gathering, and due notice will be given to the fraternity of the attractive features arranged. The photographers of Altoona, the next convention city, are preparing to give visiting photographers a cordial reception, and the outlook for 1898 is altogether bright. Photographers desiring to join the Association should send their names and addresses at once to T. B. CLARK, Secretary P. A. of Pa., Indiana, Pa.

THE FIRST ANNUAL EXHIBITION of the Detroit Camera Club was held May 16th, about 200 entries being displayed. These comprised the work of amateurs and professionals, both classes existing in the club. Mr. A. D. NOBLE, JR., secured the gold medal offered for the best single picture by an amateur. Dr. HUGO ERICHSEN (amateur) won the first prize for genre. The best pictures in the professional section were shown by J. E. WATSON and E. DONALD ROBERTS, both of Detroit.

THE JUDGES for the National Photo Salon, referred to elsewhere, are announced as follows: Mr. WILL BRADLEY, the noted poster artist, of Springfield, Mass.; Mr. G. W. PACH, of MESSRS. PACH BROS., New York; and Mr. EDW. NEWCOMB, editor of the *Photo-American*, of this city. These gentlemen are all reliable judges of good photographs, and the results of their work will be looked for with much interest.

RESIGNATION OF THE SECOND VICE-PRESIDENT P. A. OF A.—We are informed that Mr. W. G. THUSS, Second Vice-President of the P. A. of A., has been obliged, for business reasons, to relinquish his office in the national association. President HAYES has appointed Mr. R. P. BELLSMITH, of Cincinnati, in place of Mr. THUSS, and is confident that his choice will meet with the approval of the fraternity.

FIRE.—The beautiful new studio of Mr. B. L. H. DABBS, of Pittsburg, was destroyed by fire on the morning of May 2d. The fire originated in a building on the opposite side of the street, and was the worst fire Pittsburg has had in forty-five years.

This is the third time Mr. DABBS has lost from fires within three years. In no case did the fire occur or begin in the building he occupied. His late studio was perhaps the most practical and convenient in the country, beautifully arranged and complete in every detail, having the best of everything in the way of apparatus and furniture. Fortunately his printing and finishing department was in another part of the city, and his negatives, card stock, etc., were saved. The morning of the fire he was looking for new quarters, and within a few hours had made a new lease of his old studio, and ordered new apparatus and accessories.

His employés, with carpenters, paper-hangers, and painters worked day and night, and within a week from his knowledge of the fire he was making negatives at 600 Liberty Street.

We congratulate our friend on his remarkable enterprise, which apparently refuses to be defeated. The new gallery has our best wishes for its unbounded success.

NOTE to article on "Lantern Slides for Coloring," given at page 171 of our April number:

In my paper on above subject, in the April MAGAZINE, I inadvertently omitted to state that slides made by the albumen process should be rendered insoluble, otherwise they cannot be colored by the best method. Another point which occasional experience proves worthy of mention is that matts never should be pasted to the slides. This practice is a source of much annoyance in coloring.

A. G. MARSHALL.

AT the May meeting of the Photographical Section of the American Institute, Mr. H. B. FULLERTON gave an illustrated lecture on Mexico, and RILEY BROS. exhibited their new kineoptoscope, with animated photographs.

HO! FOR THE CONVENTION.—A special party is being made up by Anthony's "Bulletin" to travel to the Celoron Convention. The "Bulletin" excursion will leave New York on Sunday, July 11th at 7.30 P.M., arriving at Celoron Monday morning at 7 o'clock. The editor of the "Bulletin," 591 Broadway, New York, will be glad to hear from photographers desiring to join this party, and will see to it that all possible courtesies are extended to those participating, and that the occasion is made pleasurable to all concerned.

PHOTOGRAVURE S. COLGA CO

Edelweiss

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JOHN A. TENNANT, Associate Editor.

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ON THE GROUND-GLASS.

THERE seems to be a general desire among the readers of this MAGAZINE that *The Ground-Glass* give as sharp a focus as possible of the new Radiotint or Chassagne process for obtaining photographs in colors. This *The Ground-Glass* has already done to the best of its ability in previous numbers of the MAGAZINE. The first details of the process appeared in a London paper on January 31st, reaching this country early in February. These details, consisting of a statement by Sir Henry Trueman Wood, were published in the March number of the MAGAZINE (page 100). In the April number (page 176) a further article on the process, by Mr. Wm. Gamble, was reprinted as offering a possible clue to the secrets of the process. During April the rights of the process for North and South America were purchased by Messrs. E. & H. T. Anthony & Co., and full information of all that was involved therein, with Messrs. Anthony's intentions, were published in the May number of the MAGAZINE (page 237). It is now announced that the solutions which produce the colors in the prints are expected to be on sale in New York before the 1st of July, and that demonstrations of the process will be given at the Celoron convention and at various cities throughout the country.

Further than this *The Ground-Glass* has failed to find anything of interest on which to focus. There has, indeed, been published what purports to be a complete specification of the process as patented in England. This did not appear in the MAGAZINE because, in the opinion of all who have seen it, it is simply a fantastic arrangement of utterly impossible formulæ, intended, if genuine, to mislead. All of which may be found, clearly set forth, at pages 237 and 238 of the May number.

The Ground-Glass counsels patience in this matter. Within a few weeks at most those who desire to see prints made by the Radiotint process, or to make prints for themselves, will have the desired opportunity. It will then be seen that, by lightly passing tufts of cotton saturated with three liquids—blue, yellow, and red—in succession over the face of an uncolored photograph, the colors of the original subject will appear in approximately correct tints. In some cases this coloration will appear to be more pronounced than in others. Why this is so has not yet been explained. Concerning the merits of the process, as to its genuineness or possibilities from a business or an art point of view, these are obviously points upon which it is yet too early to

focus with any definiteness. That Messrs. Anthony & Co. believe in the practical value of the process is shown by the fact that they have ventured a considerable sum in securing the American rights for its working; that the public will be intensely interested in seeing the first results of its use there can be but little doubt.

One fact concerning the Radiotint process can be focussed upon in an entirely satisfactory way, and it is this: The photographer who invests in sufficient materials to secure a few prints in color from his own negatives (and this we see will be possible at an expenditure of from $5 to $10), will, if he obtains a dozen attractive pictures in color for his display frames, gain an advertisement thereby which should prove of more worth to him than the money expended. In this way he would also be able to judge for himself of the value of the process in his business, and satisfy his natural curiosity as to its possibilities in other directions.

The Ground-Glass has many times focussed upon the desirability of photographers keeping near at hand good examples of the usefulness of photography in generally unthought-of directions. During a summer afternoon visit to the establishment of Mr. George G. Rockwood, on upper Broadway, *The Ground-Glass* focussed on a photographic reproduction of a rare piece of music. This attracted the attention of a customer waiting nearby, and when he had finished with the business which brought him there the following conversation ensued between Mr. Rockwood and his patron:

"I see you can reproduce music. Do you undertake such work as part of your business?"

"Yes, we have many orders for such work from patrons interested in music."

"I should think so. The sight of this excellent reproduction reminds me that we have at home several pieces of music which, by long use, need renewing, but of which we have not been able to secure printed duplicates."

"Send them to me, and I will make you slightly reduced *fac-similes* at a small cost."

The terms were arranged and the order secured. It occurs to *The Ground-Glass* that here is an idea which deserves wider appreciation. In every "musical family," or circle, or society, there will be found "favorite" pieces of music which cannot be duplicated, and by long familiar use are falling into decay. These the photographer can reproduce in such a way that the photographic duplicate cannot be distinguished from the original. The copyright question should, of course, not be neglected in undertaking work of this kind, but it will rarely prove a source of trouble. Photographers should make their facilities known in this and other similar ways.

There is nothing new to focus concerning the Celoron convention, which will be held from the 12th to the 17th of this month. All arrangements are now nearing completion for a grand week of photography and a magnificent display of pictures. Nothing remains save that everyone who can should leave no stone unturned to be present and take an active part in the meeting. The affair is an investment of the profit of which there can be no reasonable doubt.

During the visit to the Rockwood studio, of which mention has already been made, *The Ground-Glass* focussed upon the first examples of a new process by which photography advances a step further as the reproductive art *par excellence*. Bas-relief photography is a matter with which all photographers are familiar. A Mr. John Baynes, of Stamford, Conn., aided and ad-

vised by Mr. Rockwood, has brought this process to perfection. This he does by producing a portrait in a proportionately graded bas-relief, *in a solid, by means of light*, and he claims that there is no limit to the height of the relief so obtained. The portraits, or reliefs, were those of Abraham Lincoln and of the inventor of the process. They were executed in plaster and exhibited the most delicate modulation of light and shade, such as we see in the newly minted medal.

"This first medallion of the new process," said Mr. Baynes when questioned about his discovery, "proves that light can be used in the production of actual forms in works of art. Nor is the presence of the desired object necessary. This portrait of Lincoln was taken from Marshall's painting, and its border from a drawing. It is really a portrait, recognized as containing every detail of the well-known face of the martyred President. In the most carefully executed medals by the old process there cannot be found the refinement of expression and the precision and certainty here manifested. It exhibits a subtlety of movement of surface unequalled by the product of any tool heretofore used. The modelling possibilities of this old tool, light, now first successfully applied for that purpose, are limited only by the inventive and imaginative faculties of the artist."

The practicability of this new process means a revolution in numismatics and in kindred arts, such as stamping plates for book-cover decoration, embossing dies for stationery and other uses, and pattern-rollers for ornamentation of base and precious metals, and for silk and cotton fabrics.

Mr. Rockwood is connected with the inventor of this process as an expert photographer. The possibilities of the process for the production of bas-reliefs in any size or material from photographic negatives, for decoration and similar purposes, will be obvious. The method is as yet held secret, but will probably be introduced commercially. An illustrated article devoted to it appeared in the New York *Herald* of May 30th.

Photography is widening its boundaries day by day, and the enterprising photographer who desires to keep abreast must possess a mental focussing eye-piece as quickly adjustable as the natural eye. As a business photography has for some time been held in disrepute, but it is now apparent that this condition has arisen in some measure from the apathy and lack of enterprise in the professional himself. This apathy is rapidly disappearing, and *The Ground-Glass* focusses with happiness upon a new order of photographers, arising everywhere, full of enthusiasm and with a growing appreciation of their profession. Some are specialists, some are all-round workers, but the same worthy desire to excel animates all. Such men will reap their reward. To those who read the best literature of their profession and work along the right lines the outlook is full of encouragement. Focus all that is displayed, or said, or heard at Celoron, and judge for yourself.

As these pages are being corrected for press *The Ground-Glass* focusses upon advance proof-sheets of a new photographic journal, titled *Camera Notes*, the official organ of the Camera Club of New York. An article therein deserves attention. It is headed "Is the Latest Process of Color Photography Genuine?" and is signed by Mr. Walter E. Woodbury, the editor of the *Photographic Times*.

In common with all who have seen the Chassagne-Dansac color photographs, Mr. Woodbury confesses himself to be puzzled by many things which are not yet satisfactorily accounted for. He expresses dis-

appointment at the results, and points out a lack of agreement in the coloring of two prints from the same negative, a defect which, of course, has direct relation to the color absorptive or selective power claimed to exist in the secret solutions used in the process.

The discrepancy pointed out by Mr. Woodbury had not escaped the focus of *The Ground-Glass*. But in view of the many greater problems brought up by an examination of these color photographs it was not thought worthy of special mention. The genuineness, or otherwise, of the process does not as yet affect the photographer save as an abstract question. It is a matter which may safely be left to Messrs. Anthony & Co., who, we learn, are largely interested in the process from a financial standpoint. As far as we are aware, Messrs. Anthony & Co. are at present simply exhibiting specimens and offering for sale the materials by which photographers, they assert, may produce photographs reproducing the colors of the subject photographed.

If it should be found in actual experience by those who buy these materials that the promised results are not forthcoming, purchasers have precisely the same remedy at hand which they would have did they purchase a toning solution which refused to tone. Apart, therefore, from the purely abstract status of the process as an invention, the responsibility of the firm from whom the photographer purchases his Radiotint supplies is the only question to be decided in his first experiments.

PORTRAIT WORK IN THE STUDIO.

At a recent meeting of the Royal Photographic Society, London, Mr. Harold Baker, an English professional of considerable repute, read the following paper on portraiture and illustrated it with examples of his work. It is chiefly interesting as giving the opinions of a practical photographer concerning the chances of success in offering the public pictorial rather than plain everyday portrait work. The first paragraph will be the better understood by those who can refer to the convention address by Mr. H. P. Robinson, given at page 391 of the September (1896) number of this Magazine:

"Not the least among the many services which Mr. Robinson has rendered to photography was the coining of that happy phrase, 'the usual thing.' But I cannot agree with him in attributing the undeniable cloud of depression which hangs over the business of the portrait photographer to a revolt of the general public, who have become tired of the 'usual thing.' It is presumptuous in me to dissent from the opinions of one whose knowledge of the subject is so great, but my own experience points in exactly the opposite direction. I have come to the conclusion that the general body of the public desire the 'usual thing,' and will not have anything else. This view is expressed in an admirable article in the March number of the *Practical Photographer*, by Mr. Sutcliffe, of Whitby, and our friend 'Cosmos' tells us just the same in a recent number of the *British Journal*. In the provinces, at any rate, there is little or no demand for pictorial portrait photography, and I have often been surprised that persons of culture and good taste, who admire picturesque portraits of their friends, almost invariably prefer the 'usual thing' when it is a question of their own portraits. A lady once actually complained to me that my portraits were more like pictures than photographs. I was astonished, and exclaimed: 'Why, that is the greatest compliment you could pay me, for that is exactly what I try to make them.'

"After an attempt to do something a little different from the 'usual thing,' one is met by the remark, 'Yes, it's a pretty picture; but then, you know, it isn't a portrait,' and a resitting has to be given. Can we wonder, then, that the photographer who carries on his business as a means of making a living returns to the 'usual thing' a sadder and a wiser man? It saves trouble, it economizes time and plates, and, more important still, it pays best. I speak, of course, from my own experience in the provinces.

"Perhaps it is different in London; but even here it appears to be largely a matter of fashion. A new man (or woman) comes forward, and for a year or two it is the proper thing to patronize him, and each sitter must be taken exactly like her friend, and then the photographer's critics tell him that he can only do one kind of portrait, or, perhaps, as was once said of myself, that I was the slave of a style of my own creation. The fashion changes, or a new competitor comes to the front, and the former one drops into obscurity.

"The use of more rational printing methods with matt surfaces, instead of the once universal burnished albumen, is only slowly making way, and many sitters are only persuaded to order them by being told that they are the fashion, although really the old Adam within them would much prefer the shiny surface.

"Occasionally I have put some carbon prints in my showcases, but I have generally regretted it, as people have said, 'I suppose those are old faded ones.'

"I feel sure that no professional photographer, with perhaps one or two exceptions, dare exhibit in his window such portraits as he would send to the Salon exhibition, yet probably he knows in his heart which is best. Several of the finest portraits that have been exhibited in the Dudley Gallery were rejected by the sitters themselves. Yet I doubt if finer portrait work has ever been done than some of that shown in Piccadilly by Mr. W. Crooke, Mr. Craig Annan, and others.

"The provincial professional photographer, as a rule, scoffs at the Salon and all its works, but our old friend, the *British Journal,* welcomes its portrait work in the hope that it will deal a death-blow to the usual showcase portrait. I must confess that I have little hope of that, while, although the artistic aims of photography have advanced by leaps and bounds, the professional is still tied down to the 'usual thing,' and will continue so as long as human nature remains what it is. And, after all, why should we trouble if the public prefer the 'usual thing?' Why not supply it and please them, and put money in your pocket at the same time! Yet perhaps even the professional photographer may feel that there is something to be sought after besides pounds, shillings, and pence.

"I am afraid some of my views on work in the studio may appear rather heterodox, but I must ask you to bear in mind that my photographic career did not begin till comparatively late in life. After some time as an amateur, I did as many other misguided individuals do—took up photography as a business.

"My first studio was a very small one, about fifteen or sixteen feet long and about eight feet wide, and nearly all the portraits I am going to show to-night were taken in a room very little larger, measuring about twenty-seven by eleven feet. It is of the usual pattern of about twenty-five years ago. It has a side-light beginning about three feet from the floor and running up to the wall-plate about nine feet from the floor; the top-light slopes from the wall-plate to the ridge of the roof, which is not central, so that the top-light extends beyond the middle of the room. From one or two exposures made in the studio of a friend, which had been altered to the pattern called the 'studio of the future,'

I much prefer the old pattern. If I were building a new studio I should carefully avoid the so-called studio of the future, and keep to the old pattern of top- and side-light, not more than twelve or fourteen feet wide, but as long as I could make it. The whole of the glass is covered with waxed paper, and there are no blinds at all, so that I am able to make use of all the light in the room. I have complete sets of blinds which I occasionally put up and perhaps use for a little while, but I soon forget all about them, and they are left until they are dirty and have to be taken down. Quite recently I had a visit from a brother professional who had received a glowing description of my studio and its wonderful arrangement of blinds, reflectors, and backgrounds. In several cases we had entered the same competitions, and in one or two I had been fortunate enough to take the prize, and he was rather curious to see this wonderful studio of which he had heard so much, as he wanted to see whether my success was due to the circumstances under which I worked. He left me, feeling that his own studio was far superior to mine, both in size and equipment, for he found no blinds at all, one small head shade, and very few backgrounds, most of them plain or graduated, and scarcely any accessories.

"Instead of using an elaborate arrangement of blinds I prefer to get varied effects of lighting by placing the sitter in different parts of the room, and in that way I am able to use all the light in the room and make quick exposures. I always prefer to make my exposures short, and in this matter I am afraid we are not so grateful to the platemakers as we should be. I sometimes wonder what we should do now if we had to go back to the old wet-plate, yet some fine work was done with it. The plates of to-day are much quicker than they were two or three years ago, and they seem to get quicker every day.

"I am afraid my want of early training is responsible for some of my revolutionary notions—for instance, I can never understand why all the professional photographers of my acquaintance still cling with a fond affection to that barbarous relic of the dark ages called a headrest. Why do they still use it? It is hardly ever necessary in these days of quick-acting lenses and fast developers and extra rapid plates. Many sitters exclaim, 'Oh! I am so glad you don't put that horrid thing to my head;' for I never use a headrest if I can help it, even for standing figures.

"As regards posing, the golden rule seems to me to do none, or as little as possible. A suggestion may be made, and the hand turned a little this way or that, or the head tilted, and so on; but let it be as little as possible. I have never found that a pose that was difficult to arrange was a good one; better start afresh.

"One must always be looking out for suggestions, for many a good pose comes of itself, and is, perhaps, quite different and much better than the one originally intended. Another point is to avoid keeping the sitter longer than is absolutely necessary in the pose to be photographed. Above all, let the position be, as far as possible, a natural one. I knew a photographer once, of whom it was said that his sitters' backs ached for a week after they had been photographed by him. Never use an accessory if it can be left out. Examine the work of the great portrait painters, and see how little there is besides the figure.

"A few of the portraits I have brought to-night have been taken in the studios of artists, and among the advantages I have enjoyed must be mentioned that I have lived among pictures and their painters all my life, and I have had the advantage of criticism from an artistic point of view. I know of no better training for the young photographer than to have his work judged

by artists, but I must confess that it is not always pleasant.

"We often hear a photographer complimented on the successful posing of children, but the photographer himself must feel that there is very little posing in the ordinary sense in the matter at all, as it is more a question of patience, fast plates, and a quick eye for seizing a pretty pose when it comes. I find that it is almost useless to attempt to pose children in the usual way, as they have a constitutional objection to doing what is wanted, and if any special arrangement is desired it is best to keep it a profound secret, and get it without the child suspecting it.

"I have one or two slides of a little girl taken with a cat, but if the cat had not been brought I am afraid no photographs would have been taken, for the child was under the impression that the cat only was being photographed, and I am shocked to think of the degree of duplicity necessary on that occasion, as I succeeded in making several exposures without the cat at all.

"But, as a rule, there are no more delightful sitters than the children of people of good position, and I often positively enjoy photographing them. I do not say always, because there are times when they are what Mr. Wilfer, in *Our Mutual Friend*, would call 'rather wearing.'

"It is often said that a photographer must have children of his own to be successful with children. I am fain to believe that I am a living proof to the contrary, for I must confess to being proud of some of my photographs of children.

"I think few photographers realize the great difference that can be made in the lighting of the face by varying the strength of the background. I have prepared two illustrations of this. In each case the sitter has been taken in the same position, but with three different backgrounds the plates received the same exposure and were developed in the same dish, and I have arranged them on one slide for the sake of comparison. Few who have not tried the experiment can quite believe that the background only is responsible for the great difference in the faces. In No. 3, with the dark background, the face appears overexposed and flat, yet it received, as I have already said, exactly the same exposure as the others. No. 2, with the background of middle tone, gives the face in about its right depth, but No. 1, with the white background, makes the face appear much too heavy, and suggests underexposure. In actual practice I always give a much longer exposure when using a white background than when using one of medium strength. Probably the proper exposure for a head against a white ground would be three times as long as the same lighting with a black background.

A TRADE PRINTING-HOUSE.

THE article under this heading, by Mr. George B. Sperry, which appeared at page 185 of the April number of this MAGAZINE, has attracted wide attention among the fraternity. In our last number we gave two papers on the subject, contributed by Mr. M. H. Bridle and Mr. Robert E. Wescott respectively. Herewith we present further letters for and against the scheme, all worthy of careful reading. We again invite the opinions of our readers on the feasibility of Mr. Sperry's proposal.

MR. D. BACHRACH, of Baltimore, writes:

"In his broad application of the scheme, I must beg to differ with Mr. Sperry as to its advisability or practicability. Some years ago the idea struck me of inducing several of the principal photographers of this city to co-operate in starting a carbon printing-

house as a means of booming that process, and thus try to lift ourselves out of the mire of cheapness. I mentioned the matter also to Mr. Falk, of New York, and he was favorably impressed with the idea. Very few photographers can afford to run this with their other printing without employing an expert carbon printer (a rare article), and it is a step which few care to take. Yet it has paid those who have done so.

"Mr. Sperry has himself stated one of the principal objections to his plan, viz., loss of individuality in work. And it is more serious than he himself seems to apprehend. Hardly any two photographers have the same ideas in regard to depth of print, tone, character of negative, etc., and it appears to me impossible to any one, no matter how good his executive ability, to carry out the ideas of each photographer in a printing establishment. I speak, of course, of albumen and the prepared print-out papers.

"In regard to economy, Mr. Sperry is in error, I think. Any establishment that uses up paper the equivalent of, say, 200 cabinet size prints per day, can employ a printer and produce work practically as cheap as any large establishment with minute subdivision of labor. I have seen numbers of printers who would not have 5 per cent. of their paper put in the rejected box after the prints were toned and fixed. If a greater economy than this ever becomes an important factor to a portrait photographer, the time has come to him to leave the profession. Our business is one of the few peculiar ones in which a small establishment and a small capital (hands and brains, *not machinery*, being the main factors) will work just as economically as a large one, within certain limits; hence I have never feared the department store bugaboo in the profession. And this is the case still more so since the introduction of the ready-prepared print-out papers.

"In cases where quality and particular skill are not requisites, as in the case of prints by the million, for tobacco and cigarette packages, the problem is entirely different.

"Neither will this rule apply so well to the carbon process, and for that reason I make it an exception; for one of the main points, the tone, is ready made in the tissue. A simple order to print in warm black, purple, sepia, or any other color tissue, disposes of that part of the difficulty. The case might even, with advantage, apply to platinotype printing; and both processes could be carried on in the same establishment. Therefore, a general carbon and platinotype printing-house might solve several problems at the same time. If co-operative, the benefits would be greater. I do not care to go into greater details, but I speak partly from experience with all these methods."

MR. B. L H. DABBS, Pittsburg, says: "I am pleased with the idea, and believe it could be made to pay both parties, but it would take or require the management of a thorough business man, with a perfect, practical knowledge of the business, beside having normal sight and an artistic feeling and taste; and few have all of the above. It would be a great relief to many photographers to feel or know that the best possible prints would be made from their negatives."

THE veteran, J. F. Ryder, of Cleveland, says: "In my opinion, such an establishment may be created and run to the advantage of its proprietor and its patrons, in a commercial sense, *as a factory*. It might cheapen the cost of photographic printing, and it would also cheapen the quality. For samples of manufactures, where photographic reproductions of manufactured articles of merchandise are desired; for views of natural scenery; for reproductions of works of art; in fact, for

all cheap uses in photography, the trade printing-house would have a place. As applied to portraiture, it might do for very low grades of work, where the customer is made to understand that what is offered him must be taken without question or criticism. But for honest, painstaking work it could not be successfully offered, for the public has grown exacting and whimsical. It is not unusual for customers to condemn work—sometimes with good cause, sometimes without—and we must reprint or have uncomfortable words with our overwise or critical patrons, which is always a mistake. We could not require our trade printing-house to reprint by way of catering to the whims of our private customers. We could do it, we must do it ourselves.

"In all things this fact is the same: very low prices and honest quality do not go together. A merchant tailor will give a good business suit for thirty to forty dollars. A ready-made clothing house will give a business suit for ten to fifteen dollars. In both cases it is something to wear—'you pays your money and you takes your choice.'"

Mr. C. T. Stuart, Hartford, Conn., sums up as follows: "For our own work in the printing department I certainly would not like it, except in one detail—that of economy. We could certainly get our prints at less cost than now. But, while admittedly this would be a great advantage, there are, on the other hand, many disadvantages attending the idea. For instance, I have just come from looking at a batch of prints being toned, and one print in particular I told the young man to throw out, and not to print any more from that negative until I had the negative changed materially. Then another negative would have to be printed on different paper, etc. There are so many points in printing, toning, and finishing, that constant watchfulness is necessitated in order to secure the best results, and that this result could always be reached by the 'trade printing-house,' I rather doubt."

Mr. John H. Kemp, Scranton, Pa., pronounces against the proposal in a specific way: "I am fully convinced I could not satisfactorily have my printing done outside the gallery, for various reasons, some of which are:

"To grade my work I am using several brands of paper, from which the printer produces the variety of tones that may be obtained from each particular brand.

"To assist in the originality of the work, the prints are mounted upon as many sizes and odd-shaped mounts as I think can be handled successfully. This, our particular feature, would probably be the main barrier to my having pictures finished away from the gallery.

"To accommodate customers I frequently am called upon to produce a portion of their order within a few hours. This necessitates my keeping a whole printing outfit, help included.

"It is a question in my mind whether or not, from an economical standpoint, it would be cheaper to have work done by a professional finisher, as the printing and mounting-rooms of the studio are not more expense to the photographer than they would be if connected with any other establishment, since they occupy a space that can bring but small revenue for any other purpose, and they are seldom made larger than is really necessary to produce the amount of work required, consequently the professional finisher would require proportionally the same amount of printing space at about the same rent as the photographer, and would necessarily be paid for by the party having the finishing done. And in renting rooms for a gallery, the photographer usually rents the whole floor or building, and is expected to pay the

same amount of rent whether a part or the whole is occupied.

"The delay caused in sending negatives and finished work, and the amount of time that would be consumed in explanations alone, would thoroughly discourage me from having any printing done other than at the gallery."

MR. L. FARINI, Bridgeport, Conn., also decides against the co-operative plan. He says: "I am of the opinion that the proposed scheme is altogether impracticable; and if carried into practice I much fear it would bring disaster to the fraternity at large, more especially as it would present facilities for entering into the field of practical photography an endless number of persons who, possessing a mere superficial knowledge of the business, are only deterred from establishing themselves as 'artist photographers' for the lack of capital wherewith to fit up and equip an establishment such as is at present required to carry on the work.

"With the advent of this new scheme, there would spring into existence an army of would be 'photographers!' heretofore unknown or thought of, who could, at a trifling cost, make a tolerably fair showing by fitting up a couple of rooms on the top floor of any of our modern buildings, where rents would be cheap, and elevators make them easy of access; and after the exposures are once made, the 'finishing-house' could do the rest. Meantime what is to become of our present establishments which, in the face of such opposition would have no alternative than to take pot-luck with the rest? And the help thus thrown out of employment must of necessity join the 'army' and fight it out with the newcomers.

"Personally, I have always been an advocate of amateur photography, and have considered that the wholesale diffusion of photographic light among the general public must bring credit rather than disgrace to the *fraternity* or on all who are worthy of success; for the knowledge and experience thus gained will enable others to discriminate between good and poor work.

"As a general practice, I refrain from entering into any discussion relative to the movements of others, believing it every man's privilege to conduct his business after his own manner of thinking; but since you have done me the honor to ask my opinion I trust my 'thinks' may throw some light on the question."

MR. E. B. LUCE, of Worcester, Mass., writes: "I think the very best results in printing can only be obtained by the one who made the negative; that one alone has a clear conception of what the finished result should be. The artist who composes the picture is the only one who knows just what he desires. Often after a proof is made he can see that it falls short of his expectation, but can be made to approach it by shading, marking, vignetting, or by other handling—this even an expert printer would not be so likely to see as the artist who conceived the picture. However, it may be that better average results are obtained by the present method of division of labor than would be secured if each photographer made his own prints, because many people of artistic temperament have not the patience to follow out all the mechanical details of printing.

"It would take a prophetic vision to foretell the success or failure of a large trade printing-house. However, I will hazard the opinion that there is a large chance for success. It would be a business having a vast amount of detail—photography grows more complicated every year. Look back ten years, then albumen reigned supreme as a printing process; now almost every studio uses at least two printing-out

papers, and many use three or four; besides these we are to-day using a great variety of different styles and sizes of mounts.

"There is a growing demand for platinotype and carbon prints, and this would seem to offer the most promising field for the printing-house. These are rather difficult processes to work, and on account of the greater expense, orders for them do not come in as often as for silver prints. It would probably be better to get them done at a good printing-house than to do them at home.

"I do not expect to see the printing in the hands of large houses entirely, as the dry-plate business now is; but I think that there is a growing demand for some such relief as Mr. Sperry outlines on account of the increased complication of business."

MR. A. N. HARDY, of Boston, says: "I have opinions directly opposed to those advocated in Mr. Sperry's article in the April MAGAZINE, and I am not in sympathy with the introduction of methods that tend to reduce our art to a mere mechanical and commercial basis. It may be possible to have satisfactory results from work done in factories, where capital and skilled superintendence, to the extent used in dry-plate manufactories is an accomplished fact. I have had some practical experience in having work done by those who printed for the trade, and the results have been satisfactory.

"I do not think that plates and paper prepared in factories, and having our printing and finishing done in a general printing plant, are to be compared. I believe that painstaking and careful photographers who have had their printing done away from their studio, and from their personal supervision, will, if striving for excellence of work, decide against the feasibility of doing so regardless of expense.

"The theory advocated by Mr. Sperry is a pleasing one. To be rid of the responsibility of the printing and finishing of our prints, and have beautiful, nice toned, and cleanly mounted pictures returned to us without care or supervision would indeed release us from a great deal, and is much to be desired; but while we would be depending on this proxy our work would be descending in the scale of excellence, and we would be constantly filled with vexation at the results."

MR. W. F. MARBLE, West Gardner, Mass., says: "It seems to me that a trade printing-house would be a fine thing and of great benefit to the greater part of the photographers.

"I think its success would depend on quality of work turned out and the price charged for same. I would gladly patronize such a house if the above conditions were right, and got my work without too great delay."

MR. W. A. DANVERS, a busy St. Louis photographer, gives hearty indorsement to the plan. He says: "I personally believe in the feasibility of a trade printing-house; furthermore, I think it is one of the things *needed*, and must, ultimately, become a fact. It is ridiculous to argue against it, as some do, that Jones will then know who Smith is working for; thus insinuating the opening-way to obtain each others' patrons. These objections are ignored when photographers need *enlargements*, by sending this class of work to the 'trade printing-house.' Jealousy alone has prevented the success of such a scheme in this city upon anything like a large scale; although, I believe, one photographer of reputation essayed to do it. Nine-tenths of the craft send out their carbon orders to be done by experts without fear as to results; why they draw the line at platino and silver prints is beyond my ken. I do believe in the necessity for a trade printing-house, and the paper manufacturers have been of

this opinion for some time, judging from the faults they find in the manipulation of their papers and the army of demonstrators they employ to instruct. It may be argued, again, that the work of such a house will bring the best and poorest of the craft on equal terms. Not so. The operator and dark-room man will always have so much to say about this, by their negatives, as to place this fear outside the pale of reason.

"It is needed (1) because as now worked printing and toning costs the small operator too much; (2) the space needed for it is expensive, nearly doubling his rent; (3) he will be more independent of the weather, as a thoroughly equipped house for printing will provide against this contingency by availing itself of modern light facilities, which are entirely beyond the reach of the average gallery man; (4) because a large printing-house, doing a remunerative business, can exact certain qualities in paper of the makers, that no one photographer ever dreamed of; (5) the uniformity of work will be the safeguard of the craft and a terror to 'cheap Johns' who infest every city, as the work of the trade printing-house will (or should) be a guarantee of its permanency. Reasons could be multiplied for the furtherance and need of such a project in every large city. The only fear I have of its success would be a 'combination' or 'ring' wedded to one idea, viz., the exclusiveness of the paper used and the antagonism of all the other makers. It behooves the gallery man to look out for himself in this matter of printing, toning, and mounting of his work; let him take out his pencil and paper and figure out the cost of this portion of his output, beginning with the rent of his printing-room space, cost of water license, paper, chemicals, and help. He will be somewhat surprised, I ween! I am heartily in favor of a trade printing-house for this neighborhood."

MR. W. A. WEBSTER, of Waltham, Mass., says: "In theory it is a good idea, but I am inclined to believe that in practice it would prove a failure. It would depend a great deal, however, on the man who was to have charge of it—how thoroughly he overlooked the work, and his ability to grasp the idea of the one who made the negative. If all negatives were as we would always like them to be, one of the great objections would be removed. I make a good many negatives that are not what I aim at, but by handling them right in the printing-room I get nearer the mark than one might expect from the plate. To do this requires my own personal supervision. Sometimes it is necessary to reprint the whole order when it is left entirely to some one else. Another quite serious objection would be the trouble and risk of sending negatives away, and delay in getting work out when wanted in a hurry, as is often the case. These latter objections would not prevail to so great an extent in large cities that had a printing-house, as the negatives could be carried in every day. The smaller and more remote places would have to wait until enough negatives had accumulated to pay to send them. The only advantage I can see would be a saving of expense, which would be quite an item to those who are perfectly satisfied if they get twelve prints of most any degree of quality."

MR. J. STEINFURTH, of Philadelphia, speaking as a practical printer, utterly condemns the proposal as calculated to further lower the quality of the higher grades of work. He says: "The plan proposed by Mr. George B. Sperry in your MAGAZINE for April, of farming out our negatives for printing to the tender mercies of a single establishment, worked on the principle of the division of labor, as a means of conducting business effectually or economically, seems to me of

very doubtful propriety. Such a scheme might lessen the price of production to the photographer, and of course lower the price per dozen to our patrons, just as the establishment of Chinese laundries and creameries have lowered the prices of washing our linen and supplying our butter.

"But it seems to me that the great desideratum is not to discover some scheme to lower prices. Besides it is a gratuitous assumption to imagine that one plant would be allowed to monopolize the trade of the whole city, with the several towns thrown in. If one would begin to thrive, a dozen or twenty would spring up, and competition for securing patronage would be lively. What assurance have we that one establishment, even if it were able with enormous capital to absorb all the smaller competitors, would be so accommodating as to give the highest grade of work, employ the most skilled laborers, pay the best of wages in the competition for such workmen, make only a slender margin for themselves, and give the great bulk of the profit to the photographer, whose hands are tied, and who is wholly dependent upon them for the supply, and would be compelled to accept their standard of excellence. But such assumed attainment of excellence is a chimera. The comparison between the production of prints and the manufacture of dry-plates is not a fair one, inasmuch as the plate is in the position of raw material, and the print the product of artistic taste and feeling, and not mere mechanical execution. To a mechanical workman a photograph is not a picture, but merely something which is to accord with his conception of what is the best to be obtained under the circumstances. Even our best printers are compelled to subordinate their opinion to that of their employer, who has in view the production of that which shall best carry out the desire of his patron. We have known many a first-class printer to criticise harshly the kind of work demanded of him, when we have seen at a glance that the demand from an artistic point of view was an eminently just one.

"In such an establishment as that pictured in such glowing colors by Mr. Sperry, what chance would the artist have to dictate terms to the directory of printers who, of course, know better than he? He would be compelled to take what is furnished him, knowing that protest would be in vain.

"The principle of the division of labor has in other trades been carried too far. The individual worker, by being reduced to the position of a mere automaton, has lost the ability of comprehensively judging of the whole work, and the consequence has been a deterioration in quality of the general product.

"Let us rather elevate our profession, and seek to develop the principles of art in it, rather than to endeavor to lower it to the position of the humblest handicraft."

PAPERS FOR PROFESSIONAL PHOTOGRAPHERS.

BY JOHN A. TENNANT.

XXVII. THAT "TRADE PRINTING-HOUSE."

It appears that we are not to have a trade printing-house—at least, not yet awhile. The suggestion toward such an establishment, outlined by Mr. George B. Sperry, has been considered by "twelve good men and true" (or more), and the verdict is against the proposal.

Notwithstanding this expression of opinion, however, the trade printing-house will, sooner or later, be an accomplished fact. Its establishment will be in response

to the demands of necessity—the necessity of economy. It will not be based upon the co-operative idea, for the photographer is essentially non-co-operative, but upon a commercial basis, to meet a long-felt want, as a minor industry connected with the growth of amateur and professional photography. Such commercial printing-houses flourish in England and other countries, and we already have here the nucleus of such an enterprise, consisting of a number of firms who make prints for amateurs, carbon prints for professionals, cigarette pictures, and enlargements. At one time the photographer made his own enlargements; a visit to one of the innumerable enlargement houses, turning out seven hundred, or more, enlargements a day, will show how completely the trade enlarging houses have absorbed the enlarging-rooms which formerly formed a feature of the majority of portrait galleries. There have, indeed, been attempts at printing-houses for professional work in New York and other American cities, but they failed, either for lack of capital or enterprise, or because, as we see, the sentiment of the fraternity is yet opposed to the idea.

The trade printing-house will have to find its place before it can be operated with success. It will not be for all, nor will it ever do away with the printing department of a gallery catering for better class trade. No stretch of the imagination can reach the possibility of Falk, Hollinger, Strauss, Stein, and the like, becoming patrons of such an establishment. There is a gulf fixed between the art photographer, or the very large photographic firms, and the print factory. The one has nothing to do with the factory product, the others have no need for its greatest advantage, viz., economy and relief from trouble; the trade printing-house (in practice) is simply a factory established for these two ends.

There is, however, a legitimate field for the industry advocated by Mr. Sperry. He deserves credit for bringing the proposal forward. But the wonder is that he, of all men, should have done so. For the man who is doing a fair business with cabinets at from two to five dollars per dozen, for those doing theatrical work of the lower and medium grades, for the commercial photographer whose orders call for hundreds of prints from one or two negatives, and for view purposes, the trade printing-house would be an undoubted advantage, properly handled. That it would need skilful management, may be surmised from the statement by a maker of cigarette pictures that his profits "were chiefly derived from his paper and toning wastes."

The trade printing-house, therefore, must depend largely upon the growth of amateur photography and the patronage of the professionals coming under the classes already mentioned. The idea that any outside concern can fulfil the desires of an ambitious and painstaking portraitist is not worthy of consideration, any more than the idea that children can be reared in an "institution" to compare with those which have the intelligent and conscientious care of parents and the influences of a refined home life; or that field peas can be grown to equal in delicacy of flavor the garden pea. We are all of us, I hope, old enough now to smile at such delusions. Those who are turning out, year after year, straight work at popular prices, prints by the dozen which are excellent, but simply transcripts of technically good negatives, will, in time, bring the trade printing-house into existence as an economical, labor and worry-saving way of conducting business.

Photographers of the higher grades, who aspire, with Mr. Sperry, to devote their time and attention to artistic portraiture, will, in the future, as in the past, seek and retain competent and absolutely reliable assistants, whose ideas, by long association and natural bent, are in sympathy with their

own, and who will, perhaps, have a larger interest in the work of the studio than can be secured for a mere "living salary;" upon whose judgment and work the employer can as reasonably depend as he can upon his own. This, in my opinion, is the true and practical solution of that always vexing question: How can we get such prints as we desire, such results as we aim for, without tedious and soul-wearing personal supervision. Give the youngsters a chance. It is amazing, sometimes, to see how much soul even "the hired man" will put into his work, if properly handled, regardless of the disproportion between the profits accumulated by his employer and the pittance doled out to him week by week. *Verbum sap.*

NEWS AND NOTES.

THE BRITISH CONVENTION meets at Yarmouth, a quaint old seaside town on the southeast coast of England, July 12th. Like our own national convention, which opens at Celoron on the same date, the meetings will extend through the whole of the ensuing week. The great feature of the British affair consists of a series of excursions to nearby places of pictorial interest, under the leadership of members acquainted with the photographic possibilities of the district. The locality surrounding Yarmouth is rich in subjects for the camera, offering as it does old moated houses, castles, cathedrals, and ancient churches, a Roman camp, picturesque bridges and highways, coaching inns, stretches of coast and scenes connected with the fisheries industry.

THERE is at present being held at the Crystal Palace, London, an exhibition of the progress of photography since 1837 to this year. The display is unusually complete and full of interest, all branches of photographic work being included, together with a large number of historical pieces of apparatus, daguerreotypes, etc. Among the things worthy of mention we may specify the exhibit of lenses by Dallmeyer, from the first lens made by the late Andrew Ross to the latest Stigmatic objective; a collection of paper negatives made in the "forties;" examples of carbon prints by Pouncy (1859), by J. W. Swan, and so on down to the Artigue prints of to-day. Ceramic pictures are shown by the substitution method, powder process, gelatine and collotype methods. Mr. Osmond R. Green sends several pictures, 24 x 18, made from collodio-bromide negatives, of which the plates were prepared by himself over thirty years ago. Portraits of many pioneers in photography are also exhibited, including, among others, Daguerre, Fox Talbot, Sir John Herschel, Sir David Brewster, Becquerel, Niepce de St. Victor, Robert Hunt, Claudet, Sayce, Bolton, Dr. Maddox, etc. A portrait in *bas relief*, pressed up from the back, is shown, which was produced over twenty-five years ago.

LA GRILLE is the name of a device, introduced by L. Gaumont & Co., of Paris, which enables one to enjoy the projection of animated photographs upon a screen without the usual troublesome flicker or vibration. In construction "La Grille" resembles a circular, collapsible fan, the upper portion having a series of transparent openings through which the pictures are viewed. There should be a large sale of "La Grille," as animated photograph displays of one kind and another meet one at every turn.

COMPOSITION is a science and is acquired through a training of the perceptions. It is a long, very long journey to travel, and attainment depends upon the persistent

exertion of the individual. It is true that there are no fixed rules in composition, but there is a growth through a certain course of reasoning. It is possible to make the principles of this growth plain, even to one ignorant of the art of drawing.—*Otto Walter Beck.*

PHOTOGRAPHS ON ENAMELLED IRON. A London syndicate is introducing pictures produced on and subsequently burnt in enamelled iron by a patented process. Plates up to 17 x 22 from portrait or landscape negatives may be had by this process, which suggests itself as useful to the photographer for his public displays where light and exposure would ruin any of the usual kinds of pictures. It is said that the cost of these pictures "from the photographer's own negatives" is approximately that of bromide prints, and there is a large variety of pigments from which choice may be made as to color, etc.

The Year-book of Photography for 1897 has just appeared. It is edited this year by Mr. E. J. Wall, and extends to over 400 pages. Section 1 is devoted to *Progress and Practice*, and comprises a series of very useful papers on elementary optics, development, silver printing, etc. Section 2 is in the form of a reference-book for the dark-room, giving useful facts and formulæ. Section 3 is a concise gazetteer of towns and places in Great Britain, written for the photographic tourist. Section 4 is devoted to winter work of all kinds; and section 5 is given up to an illustrated description of the novelties of the year. The book is one which should be on every photographer's shelf, and its compiler deserves congratulation upon its all-round helpfulness.

THE BAS-RELIEF STUDIO of Mr. Taber, in Dover street, London, is described in a recent issue of the *Whitehall Review*, an English periodical given over to the news of the aristocratic world. Mr. Taber, with characteristic American enterprise, opened his establishment with a fashionable reception, at which the visitors were entertained with music by "fair Americans" and an elaborately-served supper.

A SUCCESSFUL WOMAN PHOTOGRAPHER. The *Sun* gives the subjoined suggestive paragraph:

London has the most celebrated woman photographer in the world, Miss Alice Hughes, the daughter of Edwin Hughes, the portrait painter. She charges higher for her work than any other photographer in London, and yet she can scarcely attend to the orders that pour in upon her.

Her work is all done at her home in Gower street, London, and there are none of the surroundings usually encountered in the best of photographic galleries.

There is no outward sign on the portal or windows to suggest the atelier, and one enters what is apparently a private home. The studio itself is built out over the garden, and one descends to it from the drawing-rooms by three or four steps.

Miss Hughes says that the secret of her success in her portraits, which is really no secret at all, is that of making her subjects perfectly at ease before the camera is turned upon them. She lets them pose themselves, and only makes such changes as are absolutely necessary.

Miss Hughes has photographed all of our American girls married to Englishmen, from Lady Randolph Churchill and Lillian, Duchess of Marlborough, to Mrs. George Curzon and Lady Terence Blackwood.

A MAN who has built up a business and reputation by fair dealing and thorough work, will not depart from the methods that have secured his success, for they have become the fixed habit of his life.—*From the letter head of E. B. Luce*, Worcester, Mass.

A GROUP BY PACH BROS.

THE STUDIO AND WORK OF MESSRS. PACH BROS.

GEO. W. PACH. OSCAR PACH. GOTTHELF PACH.

It will doubtless surprise some of our readers to learn that the most characteristically American of our prominent studios is one of which the greater part of the fraternity knows little more than the name, and, in a general way, the reputation. We refer to the studio of Messrs. Pach Bros., established in this city almost a quarter of a century ago, and located at 935 Broadway, in the very heart of the metropolis. The establishment, running through Twenty-second Street from Broadway to Fifth Avenue, covers the ground space of more than six ordinary buildings, and occupies the whole of the fourth, part of the third floor and the great flat roof of the building in which it is situated. This veritable hive of photographic industry, which includes the work of thirteen or fourteen branch galleries, is directed by three of the ablest men in the profession—Messrs. George W., Gotthelf, and Oscar Pach. Mr. George W. Pach, the senior member of the firm, is the authority in technical matters, negative-making, skylight, reproduction, and all the outdoor work. Mr. Gotthelf Pach has charge of all the indoor work except that of the studio and office. This includes the supervision of orders, work-rooms, printing departments, finishing- and storage-rooms, a position which necessarily demands unusual executive ability. Mr. Oscar Pach is the financier, master of ceremonies, and general business manager of the concern. Of these old friends, whose portraits accompany this notice, we have not space here to say more than that, each in his own peculiar way, they are genial, capable business men, resourceful and tactful in their work, dealing fairly and generously alike with patrons and employés, blessed with excellent digestive faculties, and therefore with equanimity and good humor, all of which has had much to do with their wonderful success.

We need hardly explain that so large a business finds employment for many assistants, thirty-five in all. Of these six are busied with skylight work, under the leadership of Mr. W. C. Farrand, a former pupil of Fredericks, who has been with the Messrs. Pach over twenty years. In the printing-rooms fifteen employés turn out immense quantities of albumen, carbon, platinum, and aristo-platino prints, under the skilful direction of Mr. Peters, whose service with the Messrs. Pach extends over

twenty-one years. The carbon printing is done by Mr. Mix, a young worker of considerable promise in his specialty. Ten people are kept busy in the work-rooms, and the office and reception-rooms provide work for three young ladies.

The field of work covered by this enterprising house extends, one may say, over the whole range of professional photography. Perhaps Messrs. Pach Bros. are most widely known as college and school photographers, a branch which occupies a very large share of their attention. Their various outside (contributory) studios are almost wholly devoted to this class of work, at New Haven (Yale); West Point (the Military Academy, U.S.A.); Princeton; Williamstown, Mass. (Williams College); Poughkeepsie (Vassar); Middletown, Conn.; Amherst, Mass.; Wellesley, Mass; Hanover, N. H. (Dartmouth College); Cambridge, Mass. (Harvard); Ocean Grove, N. J.; and two galleries at Long Branch, N. J. Some of these are, of course, open only when the colleges are in session; others during the whole of the year; by moving their operators about to meet the demands of each locality the force of six men covers the field. Each studio is permanently located and equipped for portraiture and general college work as far as negative-making is concerned. The printing and finishing of orders is done at the home gallery, which accounts for the activity of the printing-rooms, where often as many as 2000 frames are handled daily, consuming about 300 sheets of albumen paper, about half that amount of aristo-platino, besides platinotype paper and carbon tissue per day. The extent of the card stock and similar supplies needed to keep the work moving can be better imagined than described.

RECEPTION-ROOM: PACH STUDIO.

Having now got an idea of the general scope of the business, let us go into Broadway for the purpose of looking around the studio and its rooms, with a friendly chat with Messrs. Pach Bros. and a glance at

their work to complete the visit. Leaving the editorial desk, we saunter quietly through Union Square, one of the prettiest little green spots brightening this busy part of New York. The view given at page 310 shows only the general aspect as viewed from our office window; those who can refer to page 196 of the May (1895) MAGAZINE may glance at the details of our walk. We emerge again into Broadway at Seventeenth St., passing the great mercantile houses with their attractive windows, until the street widens out into the delightful panorama which displays at once Broadway, Fifth Avenue, Madison Square Park, and the famous tower of the Garden, from the top of which the Diana of the Gothamites discovers to mortals the fickleness of the winds of heaven.

WAITING-ROOM: ADJOINING THE STUDIO.

It is here, at the portal of this beautiful scene, that we find 935 Broadway, and the studio of Messrs. Pach Bros., with windows open to every breeze that blows, and operating-rooms illuminated by the constant light of the northern sky. As we pass in at the wide entrance we see the modest outdoor display frames, generally devoted to portraits in carbon or platinotype, and photographs of current events in the life of the city, which proclaim the studio within. Reaching the third floor of the building by means of the spacious elevator, we enter the reception-room of the studio. Its roominess and tasteful decoration are hardly suggested in the accompanying engraving. The extreme length of the room must be fully fifty feet and its breadth twenty feet. Its walls are covered with maroon cloth, on which are displayed choice specimens of artistic photography, portraits of celebrities, charming studies of children, dainty interiors and the like, printed in many colors, and some elaborated with the brush. The appointments of the room are in harmony with its character, luxurious and yet in perfect taste. At the further end, not seen in the engraving, the private and public offices of the firm are located. If first impressions are of chief importance, the visitor to the Pach studio must unquestionably gain a favorable idea of photography

COLLATING AND STOCK-ROOM: COLLEGE WORK.

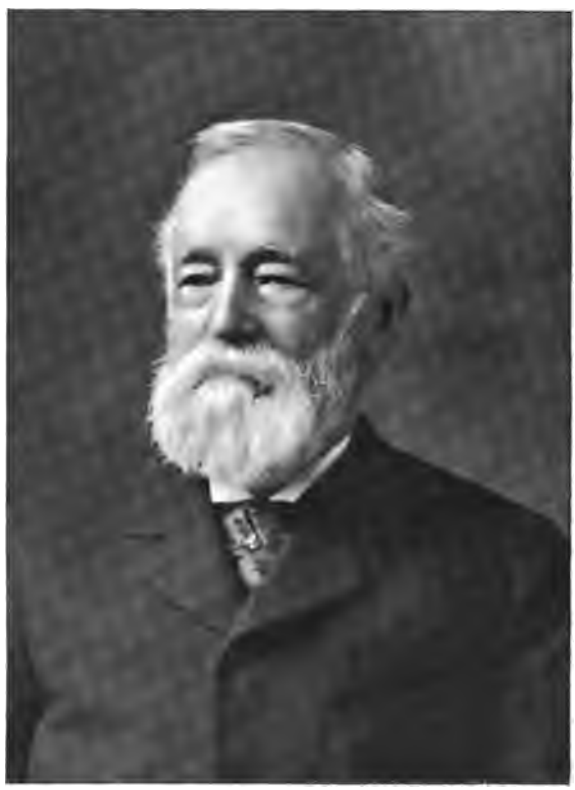
Stating the object of our visit, we make our way to the short flight of stairs leading to the gallery floor. At the top we find ourselves in a second delightful waiting-room, where soft rugs on a polished floor, fine paintings and carefully selected furnishings add to the pleasure of the visit. Here we are received by an assistant and a maid whose duty it is to look after the ladies and children. After admiring the room and the fine outlook from the windows, revealing the Hudson River and the Jersey shore in the distance, we look into the toilet-rooms and pass on to the main studio. There are two smaller studios for special work, but the main studio is an unusually large room suited for general work. Mr. Farrand now takes charge of us, and, in a pleasant chat, demonstrates his methods of working. Unfortunately we are unable to show a view of the studio. It is peculiar in that the side light is almost wholly screened, the toplight being so manipulated as to give all desirable effects. This is necessitated by the erection of a high building on the other side of the street, facing the studio. In the smaller portrait studio, however, the side-light and skylight are illuminated by a larger stretch of unrestricted sky than any other studio in the city within our knowledge. It is here that the delicate effects observable in the lighting of the portraiture of this firm are chiefly secured, although the greater part of the work is, of necessity, made under the large skylight.

Pach Bros., New York.
ANTON SIEDEL.

Leaving the studios and their many interesting features, we take a glance over the interior of the two roomy dark-rooms, equipped with every facility for the expeditious handling of large quantities of work of all sizes. Pyro and soda reign supreme in these rooms, and development is chiefly done by the tentative method, as in other New York galleries. Now, in hasty review, for the daylight fades, we pass through the negative- retouching- and print spotting-rooms, the mounting- and finishing-rooms, with a commodious ante-room devoted to the storage of backgrounds and accessories, out into the room devoted to the collating and finishing of college work, shown in the engraving, where, at the time of our visit, some 138,000 pictures of colleges and collegians were stacked awaiting

completion of orders. The majority of these prints were 10 x 12 and 14 x 17 in size, comprising groups, as shown in our inset picture, and combination prints of twelve or more portraits on a card, with an autograph under each portrait.

We turn a corner and meet Mr. Gotthelf Pach busy at his desk closing up the business of his department for the day. We are in the general stock-room; negatives from No. 1 to No. 200,000 odd, surround us on every side in systematic order. Accompanying Mr. Gotthelf, we ascend to the roof and find there several rooms of ample size, built on for printing purposes. These include "changing and filling" rooms, glazed frames for wet-weather printing, and a little room containing a huge paper-cutter which will cut a ream of sensitized paper into the desired sizes in less time than it takes to describe the operation. On the roof itself, in the sunlight, are dozens of permanent tables for the accommodation of the frames in printing. It is so pleasant up there, away from the noise and bustle of the street and yet with the life of the city swarming beneath us, that we would fain linger; but the work is done and the place is deserted. We, therefore, descend to the toning- and washing-rooms, which we find still fragrant(!) with the familiar fumes of a large department of this kind. The various tanks here most nearly resemble public baths, so large are they, and the surroundings so watery in suggestiveness.



Pach Bros., New York.

A PORTRAIT.

Returning at last to the cheerful precincts of the waiting-room, a few pleasant moments pass in conversation with "the dauntless three" upon whom this industrial structure rests. Of that conversation, and of the collection of beautiful work shown us, lack of space forbids mention. Perhaps at another time we may take up the dropped threads and record what was said of photographic interest. We must not close this imperfect account, however, without stating that, in addition to their portrait and college work, the Messrs. Pach annually turn out an immense amount of theatrical work (figures, groups, scenes, etc.); interiors and exterior architectural photographs; commercial work of all kinds; enlargements, pastels, and color pictures of large size; reproductions of paintings; street views and landscape work; horses and

live-stock of all kinds, etc. The Long Branch and Ocean Grove galleries are open during the summer months only, and cater to the needs of the fashionable world congregated there during the season.

We were glad to hear from the Messrs. Pach, at the moment of leaving, that their business shows a decided increase each year; that the present season has thus far been an unusually good one, and that they find a growing demand from the public for better work with increasing readiness to pay higher prices for the quality of the work. Such sentiments come naturally from men whose constant aim it is to uphold and dignify photography as a profession, and we wish them still greater success in their work *pro bono publico* and personal.

J. A. Tennant, New York.
UNION SQUARE, N. Y., IN MAY.

A MAINE TOWN.

AWAY up in Maine, at the northeast corner of this great country of ours, there is a veritable paradise for lovers of pictorial effects in photography, which deserves to be more widely known and appreciated than it is at present. We refer to the country around Eastport, a quaint little fishing town of some eight thousand inhabitants, on an island in Passamaquoddy Bay at the mouth of the St. Croix River, which forms the boundary line between the United States and Canada.

ALONG THE WHARVES.

Eastport itself furnishes abundant material for the camera, and a photographer paying the place a visit should beforehand secure a goodly supply of plates or films; but it is only when one dips into the picturesque villages thickly scattered around, or skirts along the coast with its innumerable pictorial opportunities, that one realizes how fortunate it is that there is a plate factory as near as Portland, in the same State, the home of the well-known *Climax*.

In Eastport, and the near-by coast vil-

lages, Campobello, Quoddy Head, Lubec, Grand Menan, etc., the wealth of pictorial material is overwhelming. There the camerist may find the cradle of American shipbuilding, fishing fleets, wharves and shipping, and all the characteristic scenes conjured up by the mere mention of a New England coast town. The view of Pike's Dock, the Fishing Fleet at Cherry Island, and Along the Wharves, engraved to accompany this note, give us a faint idea of the possibilities of the locality. Nor must the human element be forgotten, for such places as these under notice abound in characters delighting the camerist on vacation. "Uncle Jerry," whose rugged exterior is here portrayed, represents a class of subjects full of interest in camera or colloquy.

PIKE'S DOCK, EASTPORT, ME.

Branching off from the coast, we find ourselves in a country presenting one delightful village after another, with grand old trees guarding the richly-hedged highways; picturesque streams winding to the sea, now through meadows and again through precipitous bluffs covered with masses of greenery and flowers. In Pembroke, Greenoch, St. Andrew's, and Dennysville, all within easy driving or walking distance of Eastport, the photographer will find, at every turn, pictures refreshing alike to mind and eye. Across the St. Croix River lies the Canadian province of New Brunswick, offering an equally abundant supply of pictorial material for the artist with camera or pencil.

For the equipment useful for this work, and the selection of subjects, Mr. J. H. Bemis, in *The American Annual* of 1895, gives the following advice:

"There are two ways of taking marine negatives: the one by having a large stationary camera — say 8 x 10 — placed upon some advantageous point and furnished with a reliable finder, the other by means of a hand camera, and afterward enlarging the more successful exposures; both ways have their advantages, but I think the larger per cent. of fine work will be done with the stationary camera of moderately large size, as the better work is always done with the more painstaking care.

"So, then, let us choose a reversible back, long focus, 8 x 10 camera, and the best rapid rectilinear lens attainable,

with a focus to exceed the diagonal of the plate used, and a shutter that will admit a single flash of light through a moderately large opening which shall remain uniform in size throughout the exposure.

"A good finder of large size is an indispensable adjunct, and a bichromate cell for color values and cloud effects will come in very usefully at times.

"In selecting subjects for marine views, seek to reproduce some of the motion of the objects about you, unless, of course, you are picturing the quiet wharves or the calm noonday reflections when repose in man and nature should be as carefully studied; the slightest particle of spray dashing over the rocks, the comb of an incoming wave, the white foam at the vessel's bow, anything, however trifling it may seem, provided it be of that variety of motion which belongs to the sea, will give to the picture that peculiar charm which lovers of the ocean will at once discern.

"UNCLE JERRY"

"Motion, that is the sense of motion correctly and spiritedly depicted, often makes the seascape a thing of beauty, and one of which we seldom tire; a landscape should show nature at rest.

"Marine negatives should always be full of pluck and brilliancy, and to secure this result err rather on the side of slight under-exposure, if err we must; never over-expose, thinking to remedy the matter in development, for the result is flat and uninteresting in the extreme.

"Develop with pyro always, and with pyro, too, for this work, that does not contain too much sulphite of soda, because the *slight* chocolate tinge left by the pyro on a properly developed plate insures us that sparkle without which the marine view is a failure; for this reason too, the plain hypo bath is the best; it should be used fresh, if it need be, for every negative, and the plate well washed before fixing. The prints should never be over-toned, and I do think that for this work the albumen positive often has the advantage over the colder-toned bromide or platinotype — though bromides can readily be developed to exhibit a warm tone; blue prints, if artistically made upon good rough drawing-paper, are superb for some kind of sea views."

Our illustrations are from photographs by Mr. C. E. Brown, of Eastport, an artist whose studio has for years been a favorite resort of painters and photographers spending a vacation in that locality. That Mr. Brown is fully awake to the opportunities which surround him is seen not only in

these few selections, but in a huge portfolio of his work which we recently enjoyed looking over by his courtesy.

Our only regret is that we cannot share the complete collection with our readers to incite their enthusiasm.

FISHING FLEET NEAR CHERRY ISLAND, ME.

A PHOTOGRAPHIC EXHIBITION AT THE STEVENS INSTITUTE.

THE Stevens Institute of Technology, located at Hoboken, N. J., recently celebrated its twenty-fifth anniversary.

We feel a sort of personal interest in this institution, because the man who has organized it and controlled its destinies for this quarter of a century was one of our intimate friends, and, together with his father, the late Rev. Dr. Morton, one of our constant contributors in the early days when this MAGAZINE began its literary life. President Morton from those distant years has kept up his interest in photography, and there has always been a considerable amount of photographic work, both scientific and practical, carried on in the Institute over which he has presided.

We were, therefore, not surprised to learn that in connection with the general exhibition of the work of professors and graduates of "Stevens" during the last twenty-five years, which was one of the conspicuous features of the anniversary celebration, an exhibition of amateur photographs by members of the Photographic Society of the Institute was to be made.

It should be said in passing that the exhibition of the work of graduates above referred to was not a collection of objects made by individuals, but in all cases consisted in machinery manufactured in commercial quantities on the designs or inventions of such graduates and under their superintendence.

For example, one exhibit consisted of water-metres which are being turned out by the hundreds under the patents and superintendence of Mr. L. H. Nash, a graduate of '77; another exhibit consisted of dynamos and motors, likewise being turned out in quantities by Mr. A. A. Wagner, a graduate of '87; another exhibit consisted of electric metres of all sorts by Mr. W. H. Bristol, a graduate of '87, and now president of the company manufacturing these and other of his inventions in large quantities.

In like manner were exhibited steam engines, gas-engines, pumps, models, and photographs of gas-works, and a great number of other machines as the same are erected and put upon the market every day. As an object-lesson showing what the Stevens Institute has done for the profession and business of mechanical engineering this exhibition was most impressive.

The photographic exhibition was equally

impressive. We have only space for two out of a multitude of examples equally admirable.

The smaller plate accompanying this note is from a view of "The Bridge of Sighs," Nürnburg, Germany, by Mr. W. Ebren, M. E., of '90, who took the first prize.

The larger plate, our inset, shows "The Head-waters of Birch Creek," by Mr. H. S. Morton, of the present graduating class, and represents a scene near the summer home of President Morton, in the Catskills. These and numerous other examples of photographic work contained in this exhibition would, in our opinion, have done no discredit to a professional exhibition.

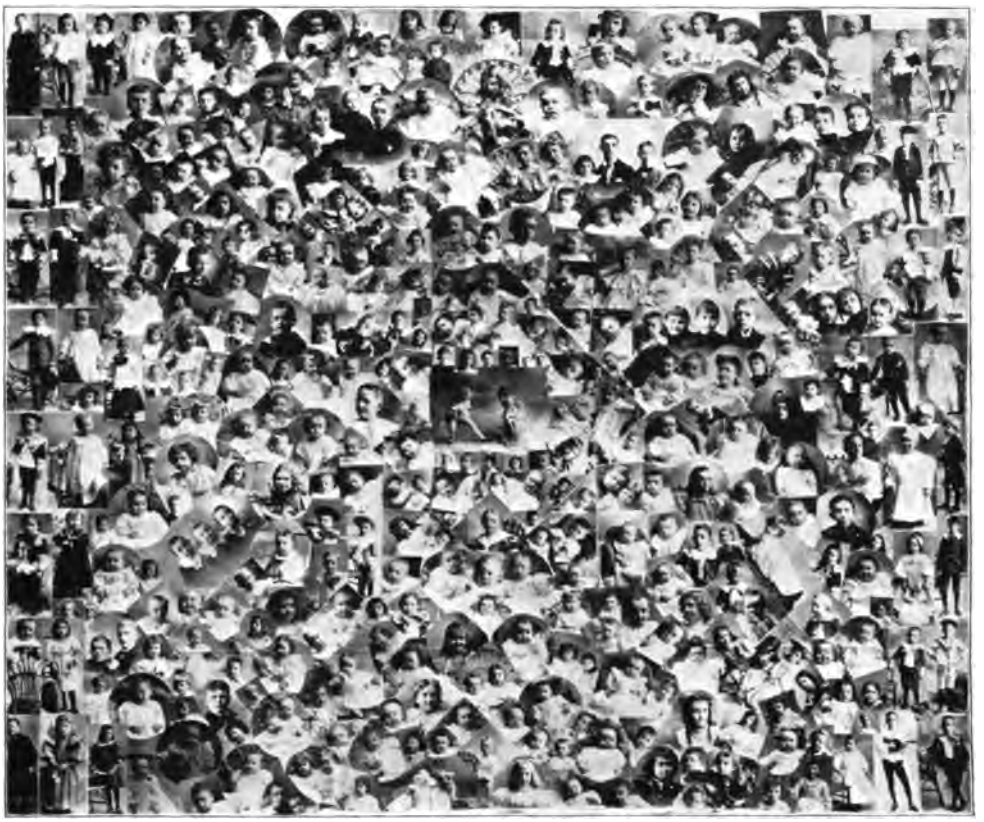
We are pleased to note that this Institute, which has already accomplished so much in the work of technical education, has recently been the recipient of two princely gifts which will enable its trustees to further extend its usefulness in the near future. Mrs. Martha B. Stevens, to commemorate the quadri-centennial, gave property renting at $1600 yearly, adjoining the Institute. Mrs. Stevens has been most generous in her regard for the Institute, and has aided its interests with purse, influence and by other means, in dozens of ways. Her present gift was inspired by President Henry Morton, who has given a fortune of over $40,000, from his private purse, to the institution over which he has presided so long and so well.

At the recent banquet at the Hotel Waldorf, New York, on the occasion of the Institute's anniversary, Dr. Morton called the attention of the many moneyed men present to the need of the Institute in the endowment line. As an object-lesson he gave $10,000 worth of railroad stock, which will be worth much more in a few years, and invited other gifts of a like nature. Quiet, devoted to study, Dr. Morton becomes an aggressive man of the world when the interests of his beloved Institute are to be conserved or advanced. The constant growth of the Institute and the ever-increasing tax upon its resources led to his appeal to which Mrs. Stevens made such a generous reply.

W. E. Ebren, Photographer.

THE BRIDGE OF SIGHS. NÜRNBURG.

"WE MAKE A SPECIALTY OF CHILDREN."



C. Heimberger & Son, New Albany, Ind.

THE CHILDREN'S CONGRESS.

THIS famous phrase, so prominent in the photographer's announcements for many years, has probably never been so aptly illustrated as in the mosaic of children's pictures recently completed by Messrs. C. Heimberger & Son, New Albany, Ind., an engraving of which is here presented. We believe the mosaic is well worthy of being published in these pages, where it will be seen and noted by lovers of children in the four quarters of the world. It shows four hundred happy children, a galaxy of beauty and intelligence, representative of New Albany's contribution to the making of our nation, and the display is one of which the nation may justly be proud.

Messrs. Heimberger & Son are already well-known by their excellent work in other departments of professional photography; they have received the highest awards at conventions held in Washington (1890), Buffalo (1891), Chicago (1892), and in Indianapolis (1895, 1897); but it may safely be said that they have produced nothing which will so solidly establish their reputation and popularity as this combination of hopefuls. How the mothers will gossip, and the young women of all denominations will exclaim at the sight of it! Its making was a happy thought.

The original combination measured three by four feet, and the miniature from which our engraving was made was the

work of that excellent lens, Voigtlander's Euryscope No. 4. To photographers the group suggests a capital means of advertisement which should not be lost sight of.

We congratulate Messrs. Heimberger & Son upon the *ensemble* and its every detail. Each picture is a gem, and the combination a glorious cluster of brilliants—a mosaic of child life.

OUR PICTURES.

UNLESS we are mistaken, the thoughtful photographer will find this number of the MAGAZINE unusually rich in pictorial interest. The illustrations, separate or in the text, cover a wide field, and each bears its own special lesson.

In the charming "Eidelweiss," reproduced in photogravure from a painting which has delighted thousands of picture-lovers, those of our readers who are awake to the present renaissance in portraiture will discover many suggestively helpful hints toward better work in this direction. We need not do more than direct attention to the pose of the head, the clever management of the lines, and the skillful modelling resulting from these, with the proper handling of light and shade to secure softness and delicacy of definition. The proportions of the picture as a whole and the disposition of the subject within its limits are also points which should not be allowed to go unheeded. The photogravure is the work of the Photogravure & Color Co., of this city, of which Mr. Ernest Edwards is the president and active spirit. It reflects great credit upon this old-established house, already famous for the quality of its work. The "Group," by Pach Bros., conveys practical teaching in a branch of work much called for at this time of the year. It is an excellent example of its kind, and comes from a studio which has long borne an enviable reputation for group photography. An account of this studio is given on previous pages, and an article on "Group Photography" will be found in the body of the MAGAZINE.

D. Gilbert, Frankfort, Ind.

A MORNING GLORY.

Mr. H. S. Morton's Catskill stream supplies a capital incentive to those who have leisure for artistic outdoor work. It is a good specimen of outdoor composition, and has been so well handled that "the art conceals the art;" the selective and working details of its production being lost sight of by reason of its attractiveness as a picture. We congratulate Mr. Morton upon his success.

The two portraits accompanying this article are selected from the prize exhibit of Mr. D. Gilbert, of Frankfort, Indiana, at the recent State convention. Mr. Gilbert secured an equal share with Mr. Reeves in the grand prize at this convention, and the gold medal in the genre class. We have an amount of personal pleasure in these pictures, apart from their worth as portraits, having watched the photographic growth of Mr. Gilbert with much interest for some years. His progress has been rapid, and, as we know, based upon a substantial foundation of hard work and study. The work we have seen from his studio is full of promise, showing much thought and aspiration.

D. Gilbert, Frankfort, Ind.

THE AFTERNOON OF LIFE.

The two engravings are worthy of special note as the work of a photographer who, with no instruction save that of books and experience, has mastered the difficulties of half-tone photo-engraving. We refer to Mr. H. J. Lloyd, of Wyalusing, Pa., concerning whom a few personal words appeared in our last number. Mr. Lloyd's work speaks for itself; it is in every way equal to that coming from firms of the highest repute in this line.

IMITATION ENAMEL, OR "BURNT-IN" PICTURES.

WITHOUT a gas-muffle furnace which can be raised to a cherry-red temperature the production of burnt-in photographs on ceramic ware is a process that is impracticable, and, therefore, denied to those with only limited means of gratifying their photographic tastes. The following process for making imitation ceramic photographs was suggested nearly twenty years ago, and it offers possibilities well within

realization without recourse having to be had to out-of-the-way or costly appliances.

The imitation "enamel" is simply a photograph on a vitreous support, such as porcelain, upon which it is japanned, so that after completion the surface is very hard and durable, and has an essential resemblance to many articles of domestic utility which have undergone the japanning process.

The process is briefly this: A carbon print is made on the final support, which may be of glass, metal, or porcelain, or, indeed, any suitable substance which will stand a considerable degree of heat. After the print is developed, its surface is japanned, an operation which consists of coating it with a suitable varnish in successive thin layers, and then subjecting it to the necessary fixing temperature. The varnishes recommended for the purpose are amber and copal, the former being said to yield the harder film, while the latter is the whiter of the two. "Stoving" varnishes are those it is necessary to employ. The term "stoving" denotes the operation of applying the required degree of heat. Apply the varnish with a camel's-hair brush, each successive layer being added only when the previous one is dry, drying being accelerated by moderate heat. The "stoving" consists of keeping the plaque at a temperature of about 180–200° for some hours, when it is allowed to cool. The surface is next polished with pumice powder, next with tripoli and oil, and, finally, with putty powder. A brilliant hard surface should now have been obtained. The necessary degree of heat mentioned may, of course, be easily had at home by permission of the lady who is privileged to possess control over the kitchen. Of course, the carbon positive may be colored before being japanned.

From the description given, it will be seen that the process is extremely simple and quite within the capabilities of any intelligent worker.—*News.*

NEW METHODS AND FORMULÆ.

A platinum toning bath. A. Cowan, in the Munich *Amateur Photographe*, recommends the employment of a 1 per cent. solution of chrome alum, without the addition and instead of plain water, for dissolving the platinum salt. The formula for the toning bath is as follows:

1 per cent. Solution of Chrome Alum	26 ounces.
Common Salt	16 grains.
Chloroplatinite of Potassium .	2 "

The prints are placed in this bath immediately after printing, and any desired depth of tone may be obtained. If the prints are fixed immediately after toning no alteration of tone is observable, but if kept any length of time between toning and fixing, the tone is intensified by the continued action of the toning agent. This toning bath should be freshly prepared just before toning, and made up in quantities simply sufficient for immediate use. The fixing bath must be alkaline for successful results.

Albumen prints from very weak negatives. Notwithstanding the growing popularity of print out papers, the use of albumen paper continues for commercial work, and with some photographers for portraiture, because of the capacity of this paper for giving rich gold tones. When it is desired to obtain brilliant prints from very weak negatives, instead of using a strong silver bath, Mr. Pabst recommends, in *Photographische Correspondenz*, the following procedure: Take a sufficient quantity of water and alcohol in equal parts to float a sheet of albumen paper, and add to the mixture 8 grains of common salt for each

3 ounces of solution, and from 30 to 150 minims of a 10 per cent. solution of bichromate of potassium, more or less, according to the degree of contrast desired in the prints. The paper is floated on this bath for two minutes and thoroughly dried in darkness. It is then sensitized in the usual silver bath. Chromate of silver is thus formed, yellowish or red in color, and it is this chromate of silver which gives the contrast in the print. The printing should be carried to a considerable depth, until the shadows begin to bronze. The toning bath employed should be one containing sulpho-cyanide of ammonium or potassium with the gold. This is essential, because the albumen surface has been coagulated by the alcohol bath, and the bichromate has a tanning action, so that the use of sulpho-cyanide is needed to enable the image to take up the toning solution. For this reason also the immersion of the prints in the usual hypo fixing bath should be somewhat prolonged, that the solution may have time to thoroughly permeate the toughened albumen film.

Metol as a developer, restrained by hypo-soda. A writer in the *Photo Mittheilungen* asserts that hypo combined with a metol developer acts as a restrainer, as a preventive of fog, and as an agent to bring out increased detail. In our own practice we have not found any practical benefit from this proposed addition of hypo, and prefer to keep it out of our developing trays. In extreme cases, however, it may be useful, hence we append the formula given in our contemporary:

A.	
Water	34 ounces.
Metol	250 grains.
Sulphite of Soda	5 ounces.
B.	
Water	34 ounces.
Carbonate of Soda	10 "
Hypo	15 grains.

For portraits take: 2 ounces of A, 1 ounce of B, and 1 ounce of water.

For landscapes take: 1 ounce of A, ½ ounce of B, and 1½ ounces of water.

Iodine as an accelerator in development with hydroquinone. The developer is made as follows:

Water	3½ ounces.
Sulphite of Soda (gran.)	62 grains.
Hydroquinone	15 "
Saturated Solution of Sal Soda	2½ drachms.
10 per cent. Solution Bromide of Potassium	15 minims.

To this solution is added 3 drops of an iodine solution, composed as follows:

Water	4½ drachms.
Iodide of Potassium	77 grains.
Iodine (scales)	20 grains in 8 oz. of water.

This is said to accelerate development in a remarkable way, and the resulting color of the image is much blacker than without the use of iodine. The addition of more iodine solution than is here given produces fog and a reduction of density. The addition of smaller quantities of this iodine solution will also be found advantageous in the development of bromide prints, producing denser blacks and a clearer image than the normal developer.

A metol-hydroquinone developer for bromide prints. A contributor to the *Mittheilungen* gives the preference to this developer over all others for bromide paper. He asserts that it is cleaner in manipulation than most of the agents recommended for the purpose, may be preserved a considerable time ready for use if well corked, produces no black specks in the fixing bath, does away with the acid bath, and permits the transfer of the print from the developer to the fixing solution without washing. Furthermore, with this developer a much stronger fixing solution may be employed. As, however, the fixing solution will, of necessity, become alkaline by this procedure, it is advised to add to it, from time to time, a few drops of acetic

acid as well as alum in small quantities. This acid-alum bath prevents blisters and frilling, and preserves the whites of the print. The greatest advantage of the developer, however, is in the surpassingly fine gradation of half-tone which it gives in the prints. It also gives better results than oxalate or amidol, with negatives of varying character. This, as our readers will observe, very closely resembles the formulæ and procedure advised for the development of Velox paper as given in a recent number of this MAGAZINE.

Glycin developer. Photo Correspondenz gives the following concentrated glycin developer which, it is claimed, is specially adapted for producing negatives of reproductions of oil paintings or subjects demanding considerable contrast with clearness of detail.

Sulphite of Soda . . .	8½ ounces.
Carbonate of Potassium C. P.	3½ "
Glycin	310 grains.
Distilled Water . . .	303.4 fl. drs.

This solution, well corked, will keep its developing power for more than a year. For use, take 50 minims of the solution and dilute with 3½ ounces of water. Of itself this developer gives remarkably soft rich negatives, with abundant detail. When very strong contrast is desirable, the finest results are obtained by intensification with mercury.

Reducing over dark gelatine prints.

Saturated Aqueous Solution Cyanide Potassium . .	15 minims.
Saturated Alcoholic Solution Iodine	5 "
Water	1½ ounce.

This works quickly, and the prints should be removed before they quite reach the desired tint.

Removing negative fog. Dr. Meniere, of Paris, advises the following treatment for removing yellow, green, red, or dichoric fog: Soak the negative in ordinary water for five minutes, and then immerse in water 100 parts, bromide of sodium 3 parts, bromine water 3 parts. Leave in for ten or fifteen minutes. The bleached image is well washed and dried, and the image redeveloped with an amidol-suphite developer.

Developers for lantern slides and transparencies.

A.

Carbonate of Soda . . .	1 ounce.
Water	6 ounces.

B.

Sulphite of Soda . . .	1 ounce.
Water	6 ounces.

C.

Water	5 ounces.
Sulphuric Acid . . .	10 drops.
Then add, Pyro . . .	70 grains.
Water	1 ounce.

Different tones may be obtained by mixing A, B, and C in varying proportions, thus for blue-black tones take of A, 2 drachms; of B, 1 ounce; and of C, 5 drachms. For warm brown tones take of A, 2 drachms; of B, 5 drachms; and of C, 6 drachms.

Collodion emulsion and developer for dry ferrotype plates. The *News* gives the following formulæ: Dissolve 50 grains of silver nitrate in 50 minims of distilled water, and add sufficient strong ammonia to form a clear solution, and then add 25 minims of absolute alcohol. Dissolve also 32 grains of ammonium bromide in 35 minims of water and 50 minims of absolute alcohol, and heat gently till dissolved. In another bottle dissolve 24 grains of pyroxyline in 600 minims of equal parts of ether and alcohol, and to this in the dark room add the above silver solution, shaking well, and then add the bromide solution, gradually shaking between each addition; allow to stand for two or three minutes, then pour into about 5 ounces of distilled water; collect the emulsion, and allow to drain; cover

H. E. Morton, Photo.

THE HEADWATERS OF BIRCH CREEK, CATSKILLS.

with absolute alcohol and leave for twelve hours, and then pour off the alcohol and add to the emulsion 500 minims of alcohol and 500 minims of ether in which ½ grain of narcotine has been dissolved. The best developer is A. glycin, 10 grains; sodium sulphite, 25 grains; water, 40 minims; carbonate of potash, 50 grains; water, 40 minims. For use dilute with water to make two ounces in all.

THE "RED LETTER" CONVENTION—CELORON, JULY 12-17TH.

DETROIT, MICH., June 16, 1897.

TO THE FRATERNITY:

Ofttimes it requires the hard raps of adversity and general depression of business for individuals to learn the value of counsel with others. Never was such a condition of affairs in the photographic business more true than at the present time. At no time since the first inception of photography, has the fact been more patent that an association of men engaged in a particular line of business was essential to the success of such.

The last few years have been productive of such distressing commercial conditions that it is very natural that the photographers of the country should assemble in convention for the purpose of comparing ideas and devising methods which may result in the betterment of the conditions of all of us. Prosperity does not beget the sociability and confidence and the concentration of ideas as does adversity.

The coming Convention of the National Photographers' Association will bring together some of the brightest minds which are engaged in the photographic business, men who have assisted in bringing this noble art up to the high standard which is maintained to-day. They will lend their advice to the success of the Chautauqua Convention, and it is promised that the papers which they will read, and the talks which will be made by them, will not fail of interest. The past few State and National Conventions have furnished the most striking example of the wonderful stride which has been made in the advancement of photography in a short period, and it is safe to say that a vast deal of this advancement is the result of the conventions of which I speak.

I believe that all those who have the interest of photography at heart will be present at this Convention at Celoron, July 12-17th, and that each will bring with him an expression of his views, not only on how to make good photographs and the results of trials of new processes, but concerning the proper manner to conduct business from a business man's standpoint.

Another interesting feature to which I would call the attention of photographers, is that Prof. A. H. Griffith, of the Detroit Museum of Art, a thorough artist, a scholar, a delightful speaker and an able instructor, will be present, and lecture before the Convention..

C. M. HAYES,
President National Photographers' Association.

ECHOES FROM FRANCE.

BY CHAS. GRAVIER.

A QUESTION attracting great attention at the present time is that of the reproduction of colors, notwithstanding the silence of the French photographic journals. It is said that the shares of the English company are at a premium.

Here is the information on the mode of proceeding at the company's office in Paris.

The inventor asserts that colors exist in the latent state in the negative made by him and in the positive print made from it.

To obtain the colorations he proceeds in the following manner: A liquid called the *mother liquid* is passed over the print; 2d, without drying, a liquid called the *yellow liquid* (said to be the primitive liquid from which a salt has been removed) is used, and immediately the yellow colorations appear; 3d, a liquid called the blue (said to be the mother liquid from which two salts have been removed); finally the blue colorations fix themselves on the portions in which they should exist on the subject and on the portions where the green appears. By the superposition of the blue on certain points which have fixed at first the yellow, owing to the undulating attraction that the light has communicated first to a negative, then, by affinity, to the positive print; 4th, a liquid called the red (still the mother liquid from which five salts have been removed) immediately, as in the case of the blue, the red is fixed and the violet appears; 5th, and finally, the mother liquid is passed over the whole print to make regular what might have escaped the action of the common tints, as, in accordance with the theory of the undulations of light, the grouping of the colors placed in evidence by M. Lippmann exists, completely, in the luminous rays, and it was only necessary to find the reagents to cause them to appear.

A promise had been made to us to be present at a trial, but, up to the present time we have not been favored with an invitation.

One of our friends, however, was present at a demonstration, and this is what he told us:

I saw the operations made; as you have been informed, very slight colorations appear in the light portions; in the shadows, no coloration visibly sensible indicates by its presence that the colors are fixed. Nevertheless, the prints shown, but not made in our presence, have colored shadows. It appears that on the print treated in our presence certain waves were wanting.

The object of the company formed in England is to manufacture the famous liquids, which are not yet for sale. In the meantime it provoked the formation of foreign companies which took the engagement first of depositing a certain sum and then of taking annually a certain quantity of the liquids which produce the colors. For the present, therefore, there is only question of the contracts passed. It is asserted that the 25-franc shares of the English company are worth 75 francs in Paris, and 200 francs in London. What may seem strange is that this process which rests, according to the inventors, on scientific theories of a very high order, should not have been laid before one of our French scientific societies. Is it feared that the members of these societies might find the composition of the secret solutions and reveal the colors?

The reproduction of colors by the indirect methods—that is to say, with the aid of pigments, is at the present time rather in the domain of the mechanical arts, aided, it is true, by a previous impression made by the photographic apparatus.

The three-color process made by pigmentary superpositions is facilitated by the photochromograph of Nachet, constructed in accordance with the ideas furnished to the inventor by Leon Vidal. With the aid of the photochromoscope of Nachet, more simple than that first constructed by Ives, a harmonious composition is very rapidly reached.

Scientists would have a very interesting investigation to make on the physiological effect produced by the mixture of these colorations; in pigmentary impressions we get, it is known, certain wavy effects which force the printers to use different grains for the different colors.

The terrible fire at the Charity Bazaar at

Paris has caused special police measures to be taken for the lectures in which cinemotography is used, and it is to be feared that such will also be in the case of lectures in which the projection lantern is brought into play.

It is possible that the disaster was the result of carelessness, but this terrible consequence should not be attributed exclusively to the apparatus used on the occasion. If the exits from the building had been easier, probably we would had to deplore but few accidents. We are more exposed to dangers in our travels on land and sea than in the lecture-room, but notwithstanding the terrible catastrophies occurring now and again, people will travel.

PARIS, May 20, 1897.

PHOTOGRAPHING GROUPS.

IN no branch of photographic technics more than in the taking of groups of people has the introduction of the Jena glasses brought about such important changes of methods as modern lenses render possible. Until quite recently, if it were desired to take a portrait group, the work was hedged in with so many difficulties and restrictions that, not infrequently, no satisfactory result was obtainable. Did we wish to work with a quick exposure, a standpoint removed to a considerable distance, sometimes impossible to obtain, was a necessity, for the lens was not made which, with full aperture, covered sharply to the edges a plate whose length in any way approached the length of the focus. To work to that extent, a very small diaphragm had to be used, with the concomitant increase of exposure. True, this increase is minimized by the general acceleration in the speed of plates as now made; but, even allowing for such a gain, the advantages are all on the side of the new lenses, which cover sharply and with full aperture an area with a diameter equal to the focus of the lens.

Then, again, unless an almost microscopically small diaphragm was used, so as to make the depth of definition almost infinite, very great care had to be taken to arrange the figures so that their front line assumed a horseshoe shape, flat fields being unknown, the only way of getting all the figures in the focus with full, or nearly full, aperture being so to arrange them by bringing the outer figures near enough to lengthen the focus of the outer pencils that they came to a point in the same plane as those in the centre. One consequence of this arrangement was that, if sharpness was aimed at, the figures near the edge of the group became very disproportioned, sometimes ludicrously so. While on this topic, it is well to point out a fact which is very frequently lost sight of, if not actually unknown. Naturally, it is not every photographer who is provided with brand-new lenses; in fact, the conservative instinct of the old practitioner leads him to prefer his old and tried friends, his lenses, and to disbelieve that there can possibly be anything better; and to these users it is that our more immediate remarks apply. Most photographers are aware of this necessity of grouping figures along a curved line to get them sharp toward the edges; but, where the lack of knowledge, or, what amounts to the same thing, its application, comes into force, is when the group is a very large one, or widely spread from right to left and the camera is at a consderable distance away. Under these circumstances it would be necessary, if the curve formation is to be utillzed to flatten the field, for the outer figures to be brought so much nearer they would appear as giants compared with pigmies in the centre. The curved formation is only available when the subjects are comparatively near. Without mentioning names, which would be

invidious, many conventioners will have a lively remembrance of one large group, spread over a large area, which was being photographed by the operator of a well-known firm. He kept shifting and arranging his figures with this curve idea obviously in his mind, and, equally obviously, he was all at sea. They would not focus, and the photographers present were subject to the infliction of seeing a professional photographer spending at least ten minutes or a quarter of an hour focussing a group which should be easily done in a minute by one who knew his way about.

As one well-known man said at the time: "Why, his lens has only one focus for that distance; what is the man bothering about?"

This leads to the consideration of another useful point in the selection of lenses. When the standpoint is once fixed, as is often the case in commissioned group work, the focussing should be done before ever a sitter comes on the spot. The size of the picture to be taken governs much more important considerations than the cost of the plates or the expense of a large lens. With a standpoint so fixed the larger picture to be taken the less "depth of focus" (with equal exposures). If the subject be a crowd at a distance, this is immaterial; but, if the subject be a smaller set of figures nearer to the camera, it will be far more difficult to get a good focus with, say, a twenty-inch lens than with a six or seven-inch.

Therein lies one of the advantages of the hand camera. With a focus rarely exceeding five inches, everything is in sharp focus with full aperture when beyond a few yards from the front of the camera. If a fifteen or sixteen-inch plate has to be covered and many planes are included, so small a stop must be used that very quick exposures are out of the question.

If we were called on to summarize the best conditions for group-taking, we would say, first, a lens of modern construction; next, one of a small focus, in other words, intended for a small plate; and, finally, absence of direct sunlight, either through the sitters having their backs to the light, or, still better, the presence of clouds to obscure the sun. Lastly, it must be noted that, if the group be taken against the sun, no satisfactory result will be attained unless the lens have a perfect sunshade.—*British Journal of Photography.*

THE BARDWELL HOME FUND.

OUR readers are already familiar with the project on hand to provide a home for the veteran Jex Bardwell and his wife, of Detroit. This proposal, which was received with approval at the Celoron Convention of 1896, has hardly received from the fraternity that consideration to which it was justly entitled. It is hoped to consummate the project at the forthcoming Convention this month, but the committee in charge of the fund state that, in order to do this, the list of contributors will have to be considerably enlarged. We, therefore, make here a direct appeal for subscriptions for the Bardwell Home, and ask for a generous response.

The Fund Committee, any one of which will gladly receive subscriptions, is composed of Messrs. G. Cramer and J. Ed. Rösch (St. Louis); George Steckel (Los Angeles); Orville C. Allen (Detroit), and the editor of this MAGAZINE.

The subjoined letters, recently received by the committee, testify to the wide esteem in which Mr. Bardwell is held by prominent citizens outside of the profession, and it is hoped that their good words may encourage many who thus far have stood aloof

to lend a helping hand in this worthy project.

DETROIT, MICH., June 12, 1897.

GENTLEMEN: It affords me very great pleasure to learn of your efforts in behalf of my esteemed friend and old veteran associate, brother Jex Bardwell.

It is quite unnecessary for me to enlarge upon the great benefit that he has been to your art, and how utterly unselfish his devotion has been. He certainly has not looked to self-interest in this matter, or, as we all feel, he would be to-day beyond the reach of want. It is for this reason that I cordially indorse, and will be willing to aid in any way possible, the effort you are making to make the closing years of his life happy and comfotable as may be. Very truly yours,

W. C. MAYBURRY.

(Hon. W. C. Mayburry is an ex-Senator, and is the present Mayor of the City of Detroit.)

DETROIT, MICH., June 11, 1897.

GENTLEMEN: We desire to commend your efforts in behalf of our esteemed veteran in photographic art, Brother Jex Bardwell. His contribution to the profession should receive generous recognition from the members of the Association, and we desire to testify to the most estimable character and patriotic services of our needy citizen, and sincerely trust the good work contemplated may be speedily accomplished. Respectfully yours,

JOHN B. CORLISS.

(Member of Congress from Michigan.)

DETROIT, MICH., June 12, 1897.

GENTLEMEN: I have heard that it is in contemplation to raise a fund to be expended in an annuity or otherwise, by which the last years of Mr. Jex Bardwell and wife may be rendered free from apprehension and care. I hope this may be done, and will co-operate in any way to bring it about.

Mr. Bardwell is held in high esteem by all of our citizens, not only as a photographer, but as a gentleman of cultivation and refinement. He has not been self-seeking, but has contributed in certain ways to the advancement of his art without money and without price, when some of his discoveries might have been turned to his pecuniary benefit. I think it would be a graceful and proper thing that such an acknowledgment of his life and labors might be made.

I have the honor to be yours truly

T. W. PALMER.

(Hon. T. W. Palmer is an ex-Senator, and was Chairman of the World's Fair at Chicago.)

The reasons which brought the proposal to offer a home to Mr. Bardwell into being are as urgent and plain to-day as they were a year ago. Years ago Mr. Bardwell, at expense of time and personal labor, materially assisted to relieve the fraternity of what threatened to be a grievous burden to all practising photography. He has ever been a ready helper of those in need of anything he could offer toward the advancement of photography and photographers. Now he is old and himself in need of help. Who should so readily come to his assistance as the photographers of America? Let us, then, all of us, do our best. *Twenty-five cents* will help, and every one can spare this. There are ten thousand photographers in the United States, every one of whom has benefited by Jex Bardwell's work in years past. If one-half of these will send twenty-five cents apiece the Home will be assured. Surely the appeal cannot be in vain. *Slip your quarter-dollar into an envelope and send it to-day to this* MAGAZINE *or any member of the Fund Committee.*

EFFORTS are being made to establish, at the British Museum, London, a national photographic record and survey collection.

CONVENTION OF THE OHIO ASSOCIATION,

COLUMBUS, AUGUST 31ST AND SEPTEMBER 1ST.

In asking you to meet with us at our seventh annual convention we are not going to solicit your attendance by promising you a good time. We want you to come prepared for work and study. Believing that the future prosperity of our association is dependent upon our ability to learn and improve, and realizing the fact that to keep abreast of the recent impetus given to artistic portraiture we must improve, your executive officers have decided to make this a working convention. It will be a two days' session, every hour of which will be devoted to work that will benefit you if you give it your time and attention. Those who heard Prof. Beck's lecture last year will be pleased to know that he will continue his subject this year at our coming meeting. To those who did not we can promise the most entertaining and profitable art lecture ever delivered before a photographic society. Mr. Beck has become deeply interested in the art possibilities of photography. He has given the matter serious and thoughtful study, and his lecture will be a valuable contribution to the literature of our art. His remarks will be fully illustrated. We are not of the opinion that art education is the photographer's sole need, nor do we believe that pictorial excellence should ever be an excuse for sloppy workmanship. It is a lamentable fact that many of our expert workmen have become so after a succession of failures that would have been largely avoided could they have had the advantages of a thoroughly systematic course of instruction. We hope and believe that among the many subjects treated at the instructive sessions of our convention, every attendant will find some knowledge of especial value to himself. An operating-room has been provided of sufficient size to accommodate all. It will be fitted with raised seats, enabling all to both see and hear the speaker. Sittings will be made under this light, the plates exposed and developed, and the results shown at once. Negatives will be made by daylight, electric-light, and by flashlight. The uses and advantages of artificial light will be fully explained. Prints will be made from these negatives on collodion and gelatine papers, both glossy and matt, on platinum paper, and on carbon tissue. The quality of negative best adapted to the different processes will be explained, and the method of getting such quality. These demonstrations will be in charge of the Association, and the gentlemen who have consented to represent the several departments are practical workmen who are specialists in their work. They will come fully prepared to discuss their subject, and will especially treat of its difficulties. In the exhibition hall will be shown a series of negatives from the leading studios of this country, an educational feature that we feel sure many will appreciate. We want to urge upon you the great value of these art lectures and instructive sessions as helps in your everyday work. The meeting occurs this year at a time when you can best attend it, and when you can make the best use of the knowledge gained.

Geo. B. Sperry,
President P. A. of Ohio.

Toledo, O., June 16th.

[The attention of our readers, amateur as well as professional, is called to the Prize List and Regulations of the Ohio Association, given at page 141 in the March issue of this Magazine. Entries close August 28th, so that there is yet time to prepare an attractive exhibit. The annual exhibitions of the Ohio Association are not only unique in character, but are

so intelligently planned and carried out as to deserve the support of all who desire either to improve in their work or to aid in the advancement of photography in America. Classes are offered in which photographers in any State may compete. Full particulars and entry forms may be had from Mr. L. A. Dozer, Secretary of the Association, Bucyrus, Ohio.—ED. W. P. M.]

SELECTION.

BY F. M. SUTCLIFFE.

THE whole art of photography can be described in one word—that word is selection. The greater the skill exercised in selection the more perfect the photograph. Not only is it necessary to pick out the most perfect or typical models, to choose the most satisfactory point of view, and the best angle of lighting, but when more than one exposure be made—and where is the photographer who is content with one exposure only?—selection of the best negative or print from its inferiors is imperative. Unfortunately, few have sufficient courage to carry this selection far enough, and the consequence is that, instead of a few first-rate pictures, many second and third rate in quality are sent out into the world.

Now that there are so many cameras astir, the need for very careful selection becomes every day more imperative, for no one now can be expected to be interested in anything which is not above the average, and a neglect of the practice of weeding out every negative which has not a new tale to tell will prevent the photographer from exercising to the best of his power the necessary selection of subject, etc., when out with the camera. Not only so, but the exhibition, if only among friends, of second-rate work, prevents the photographer from rising in the estimation of his brother photographers. We say his brother photographers, advisedly, for no one but a photographer knows or cares whether sun-pictures are good or bad; we have only to listen to the remarks of those who are not photographers about photographs to be convinced of the truth of this. Who are the giants among photographers? The men whose output is unlimited, who weary their friends with innumerable *attempts*, and who cannot find it in their heart to throw in the fire all which does not thoroughly satisfy their expectations? Hardly. The men whose work we are always most eager to see are those who exercise their skill in selection most heroically, who throw aside without hesitation all which they think is not up to the mark. Stop! says the student, what bothers me is to know what to select and what to reject; and it is with the hope of gaining information that I show such a quantity of work. So far, so good; but the student may be asked if he always does what he can, be it ever so little, in weeding out, and if he always takes in good part the advice offered to him as to which to burn and which to frame. We are afraid he does not, and the most wholesome lesson he can have, where he gets not only the benefit of the advice of one but the collective wisdom of many, too often raises only a feeling of resentment and a wish to kick everyone all round, instead of a feeling of thankfulness to those whose experience enables them to advise and point out the right way. We mean, of course, the immense benefit the young photographer derives from submitting his work to those exhibitions, where a selection is made, where quality and not quantity is the watchword. Yet against this healthy

discipline some accuse their advisers of impartiality, and they rush into print, saying how they had paid "10*s.* or 12*s.* for carriage, and had all returned." Here, again, we see the need for selection. Just imagine what a large number of framed photographs can be sent from one end of the country to the other for "10*s.* or 12*s.*" The selecting bodies of our exhibitions are only human, after all, and when they have a hundredweight of stuff, all framed alike, it is only natural for them to say, "Oh, send that lot back to where it came from," and to ask the man who sent it to remember that if every exhibitor were to submit such a quantity we should have to sit here for six months instead of six days. Even the selection committees of our prominent exhibitions err, to our mind, in hesitating to refuse weak work, and even the best exhibition reminds us too much of the beach photographer, whose caravan is covered from stem to stern with, apparently, a print of every photograph he has ever taken. Of course, everyone's standard of taste is different, but when half-a dozen photographers find it impossible to answer among themselves why certain prints have been thought worthy of being hung, the advisability of an explanatory note in the catalogue, giving the reasons why the print found favor in the eyes of the hangers and selectors might be advisable. When awards are made we venture to think that the judges should *always* point out the reason for their decision. The very fact that a certain print pleases them should not be sufficient, but even if this rule were made imperative it might be the means of merely showing the ignorance of the judges, as was the case at the late Chicago Exhibition, where many of the judges expressed their reasons for making certain awards in words which only proved that they, the judges, knew nothing of the things they had been appointed to adjudicate upon.

Selection is exercised, too, in another way, with the cutting knife. The late J. W. Ramsden, a man who saw much further than most photographers, was constantly advising the use of square plates; he was undoubtedly right. Not that the whole of the plate need be printed; but the very fact of having a square plate makes the worker think about the best shape and size of the print, and so exercise those selective abilities he has been endowed with. Just as the skilled hand may be seen in selecting two good photographs out of a hundred, so may his capability be noticed in the way he trims his prints, unsparing sacrifice, cutting away every inch which is useless. Sometimes a large negative may have to be cut down to a few inches in size. At every photographic exhibition we see examples of works often imperfect when taken altogether, but which contain a jewel imbedded in clay. The wish to cover up the useless part has been so irresistible that we have often made a mask, in the form of a view meter, the more thoroughly to enjoy the precious morsel without its detracting surroundings.

Out of doors, that is, in landscape work, the work of selection is often merely a question of waiting and watching, but with figure and portrait work the photographer can do more: he can pick and choose his models. It is said that one professional photographer even picks his sitters; at least, he refuses to take anyone whom he thinks will not do him credit. Not only can the photographer select his models, but he can, when he knows how, as Captain Puyo has shown us, command success by choosing the models, dresses, and surroundings. Photographers too often leave to chance the accessories and dress of their figure studies; no wonder, then, that so many are imperfect.

To be able to exercise the faculty of selection in the most perfect degree, it is necessary that the photographer should have a high ideal. The beauty which is

supposed to exist in the eye of the beholder should ever be trained to prefer the perfect to the imperfect. In most cases a sympathetic chord is struck when the photographer is in the presence of what is beautiful, and what we call selection is only a response from ourselves to that which struck us first.—*Photography.*

HINTS FROM HETHERINGTON.[1]

THE color of the walls of the operating-room should be a dark maroon, so that there will be no reflected light. The accessories should be small in most instances, so as not to interfere with the subject. Have the operating-room clean, with nothing in it which does not properly belong to its equipment. Always have ground-glass in the skylight. I prefer the single-slant light, about 20 feet wide by 24 feet high, starting 3 feet from the floor. The proper pitch will be secured by bringing the top of the light 4 feet into the room. Smaller lights can be built in similar proportions.

BY careful thought and study a printer may constantly improve. Double toning is a fine thing for odd effects when you use platino. Take a print, say an 11 x 14, printed in a tinted form. Tone the print very little in the gold bath, just enough to clear the high-lights. Then wash it well, lay it on a piece of clean glass, dip a brush into your platino bath, and go carefully over the parts you want toned down. When the print is finished it will make a good sample for the show-case. Such things make good advertisements.

BE particular about the walls of your reception-room. I would suggest a dark-green ingrain paper, or, better still, the walls may be draped with velour of this shade. Where space will permit, hang mahogany-stained panels, say, 3½ x 5 feet, on these arrange your pictures, framed in delicately gilt frames.

[1] Taken at random from "Studies from Leading Studios," by Charles Hetherington.

THE person in charge of the reception-room should be one of the smartest about the studio, and should know something of art and artists. In this way a good impression may often be made. The person in the reception-room and the operator should arrange some means so that if the salesman thinks a good order may be secured by taking a few extra negatives, the card now almost universally sent to the operating-room with the customer may be appropriately marked to convey this information.

THE background should always harmonize with the face of the sitter. Backgrounds are far too light as a general thing, and make the face look hard and wiry. If it is necessary to use a plain light ground, first turn the light to the ground, pose and light the subject, then arrange the ground at the proper angle to balance the light on the face. In portrait work too much attention is given to details of costume, etc., and not sufficient to the relation of face and background. The ground should be placed as far from the subject as possible, and the design of a figured ground should always be placed a little out of focus.

I CONSIDER J. C. Strauss, of St. Louis, one of the most successful men in our profession in photographing children. White drapery, so much worn by children, is beautifully brought out by his method of working. He lights his little subjects from the back, and his pictures are full of detail, even in the strongest lights. His pictures of children look as if they were taken in their own homes, and are indeed pictures.

DOUBLE-DEVELOPMENT is a great thing. For instance, you have a negative of delicate drapery to develop. First develop it until the drapery is what you desire. Then stop and thoroughly wash the plate. Now place the negative in a clear glass developing tray, and place the tray on the top of a box with an orange-glass lid. In this box place a light, so that you can watch the later operations. Now dip a soft brush in your developer, and go over those parts of the negative which need further development. You will be surprised at the results.

LARGE negatives should be retouched on the back of the plate only. In this way you get rid of the sharpness. This can be done by coating the plate with ground-glass substitute, which can be obtained at at any stock-house.

THE sun-burned face of a man full of yellow and brown tones cannot be properly photographed if you use a light background. The contrast is too great. Use a dark ground with just enough light on the shadow side of the face to relieve the outline well. Get some copies of old paintings, study the lighting, drawing, and modelling, and you will find them a great help.

NEVER pose a lady with her hands resting on her hips. This is a decidedly mannish pose. For dainty poses of this class of subjects—get my little book.

ARCHITECTURAL PHOTOGRAPHY.

IN a paper recently read before the London and Provincial Photographic Association, Mr. H. C. Oakden gave a valuable *résumé* of practical points covering architectural photography. He said that there were two points of view from which this work could be approached, namely, the technical—by which he meant the delineation of such parts of the buildings as the details and the enrichments, etc.—and the artistic, that is, in which a certain amount of thought and study in the composition and balancing of light and shade was required. He saw no reason himself why the photographer should not embody both of these in his work. Of course, a camera was required, and the square form was very useful for this class of work, for the reason that it was often found necessary to raise the lens as far as it would possibly go. The focussing screen was best ruled in squares, as shown, inasmuch as it was possible by its means to ascertain approximately whether the adjustment of the camera was good or not. A form of focussing screen, which was claimed to be a little more transparent, was made by fixing an unexposed plate, and, after washing, putting it to soak in a weak solution of sulphuric acid, after which it was treated with a weak solution of chloride of barium and left until a slight deposit of white took place. It was then dried, care being taken not to touch the surface. As regards the lens, the landscape form was practically useless, and the ordinary rapid rectilinear of very limited use. The most useful were the wide angles, preferably of the portable pattern. A lens of a wider angle than was absolutely necessary for the inclusion of the amount of subject required should not be used. In selecting a wide angle for use, it was suggested that the photographer should try it with a camera at least two sizes larger than the one he intended the lens to be used with, as he would learn more from this of the actual capabilities of the lens than by any other way. He would then know how far he could safely raise his front, the circle of illumination

being known, and the quality of the definition of the lens, when used in any particular position, would be seen. Of the recent introductions—the anastigmats—some he found to work exceedingly well, but experience told him they were not all equally good. The tripod, of course, had to be absolutely rigid, and, in working on marble or other polished floors, should be shod, cork or any similar material answering the purpose. A plate should be selected which contained a fair amount of silver, poor plates being useless for this class of work; and it could be of the ordinary or isochromatic type. The latter was advantageous in the interiors of churches, for instance, where there was generally a lot of dark furniture, and in situations where the light admitted by the windows called for its use. Mr. Oakden always backed his plates. As regards the exposure, there was no rule, the best guide being experience, its length varied from a few minutes to several hours. In development, opinions differed; some liked to feel their way with tentative development, others preferred rapid action. Perhaps the latter was preferable in the case of windows in the subject likely to give halation. In working on the outside of a building, the greater part of the exposure was best given in diffused light, with a little sunlight to finish up, thus avoiding the hardness which the latter alone gave. For interiors, days when the sky was full of bright clouds with intervals of sunlight were suitable times, yielding softer effects. Subjects with northern aspects were best taken in the early morning or late at night in the summer months, this being the only period when that part of the building was reached by the sun. In the selection of the point of view, careful study of the effects of light and shade should be made, as well as the subject generally, and Mr. Oakden also laid stress upon the photographer endeavoring to ascertain the views held by the architect, and to do justice by them.

SOME RECENT PHOTOGRAPHIC PATENTS.

We have arranged with Messrs. Alexander & Davis, patent attorneys, of Washington, D. C., to supply a monthly report of patents relating to photography, granted and expiring each month. This information will doubtless prove of interest to our readers. Copies of these patents may be obtained from Messrs. Alexander & Davis at 10 cents each.

Patents Issued May 18—June 8.

Photographic Camera. Ernest R. Freeman, Boston, Mass. No 582,855. Issued May 18, 1897.

This invention comprises a rectangular box, in one end of which is mounted a rotary plate-holder adapted to hold four plates, one on each face. The front of the camera consists of a rectangular section adapted to slide within the camera-box and carrying the lens and shutter on its outer or front wall. The rear end of section fits squarely against the forward face of the rotary plate-holder, and insures the proper relative position of the lens and plate and acts as a gauge to determine the proper position of the rotary holder. In operation, when the plate-holder is to be operated, the lens-end of the camera-box is drawn outwardly sufficiently to permit the holder to rotate, and is then pushed inward to retain the plate-holder in its new position.

Photographic Camera. Silas French, Rochester, N. Y., assignor of one-half to A. Bier, of same place. No. 582,995. Issued May 18, 1897.

An extremely portable camera, constructed largely of metal, with folding and interlocking parts, designed for tourists' use.

Photographic Camera. Max Bauer, Jersey City, N. J. No 583,836. Issued June 1, 1897.

The back of this camera is constructed so as to be movable to a variety of angles by means of swings or pivots. The patent also includes mechanism for locking the swing back in its various positions and for automatic release.

Camera Shutter. W. V. Esmond, New York, assignor to E. & H. T. Anthony & Co. No. 583,700. Issued June 1, 1897.

The main feature of this invention is its extreme simplicity. It consists of a leaf shutter provided

with an exposure-aperture and carrying a supplemental shutter which covers the exposure-aperture in the main shutter, as said aperture passes over the lens opening. A spring acts on this supplemental shutter to return it to its normal position after the main shutter is set for exposure. An extremely simple mechanism is provided for making time exposures and for regulating the rapidity of the instantaneous exposures.

COPYING APPARATUS. A. Linley, London, Eng. No. 584,182. Issued June 8, 1897.

This invention relates to photographic cameras used for copying the production of negatives for making "process-blocks" for printing purposes. The camera is of that kind in which the camera front carrying the lens is movable in a plane parallel to the plane of the copying-board carrying the subject to be copied. The image projected by the lens is rectified as regards right and left by being reflected by a mirror or prism in a direction at right angles to the optical axis of the lens, and in which the whole camera is movable (for the purpose of varying the size of the picture) in a plane perpendicular to the plane of the copying-board. The various correlated movements of the copying-board, camera front and focussing screen are provided for in order to maintain the central position of the picture on the focussing screen, notwithstanding the various adjustments of the parts of the apparatus.

STEREOSCOPIC RÖNTGEN-RAY PICTURES. Elihu Thompson, Swampscott, Mass., assignor to the General Electric Co., New York. No. 583,956. Issued June 8, 1897.

This patent covers the art of producing stereoscopic pictures or shadowgraphs by the use of Röntgen rays, and consists in exposing the object to be photographed to a source of Röntgen rays in one position, and then shifting the relative positions of the source of rays and the object while making a second exposure of the same object.

It is impossible to produce stereoscopic pictures with Röntgen rays in the ordinary way of producing photographic exposures, these rays being incapable of focalization by refraction, so that relatively displaced lenses cannot be used.

EDITOR'S TABLE.

WE are always pleased to answer technical questions for our readers at any time, but the number of these increases so largely each year that we must ask our correspondents to be more diligent in self-help. Nine-tenths of the queries reaching the Editor's Table could be easily and satisfactorily answered by reference to *Cyclopædic Photography*, a general reference-book embracing 2500 items of direct interest to photographers. This book can be had postpaid to any address for $4. It is well worth $10 to any photographer, and is the most complete work of its kind obtainable.

AMATEURS AND PROFESSIONALS in and around Chicago will find a full supply of the latest apparatus and materials for all branches of photographic work at the warerooms of Mr. MARTIN G. GOOD, 92 State Street, Chicago. This enterprising dealer makes a specialty of city and mail-order business, and is winning an enviable reputation for promptness and courtesy in his business dealings. Get acquainted with him.

BARGAINS IN HAND CAMERAS.—Mr. H. A. HYATT, Eighth and Locust Streets, St. Louis, has issued a bargain-list of hand cameras full of attractions in styles and prices. The goods are for the most part new, and the reductions in price are tempting. We note also that Mr. HYATT is agent for Spurr's chemicals and matt-surface spotting colors.

THE "BULLETIN" EXCURSION PARTY will leave New York for the Chautauqua Convention on the evening train, Sunday, July 11th, at 7.30, arriving at Celoron on Monday, at 7 o'clock A.M. Full particulars can be had from the editor of the *Bulletin*, Mr. W. I. SCANDLIN, 591 Broadway, New York. A cordial invitation is extended to the photographers around New York to join this party.

THE KIRKLAND LITHIUM PAPER CO., Denver, Colo., reports an increasing demand for *Lithium Matt* print-out paper this season. This is an excellent paper, giving brown, black, or olive tones, as desired, with an absolutely matt surface. We have seen a collection of prints made on this paper which could with difficulty be distinguished from carbon prints.

"ECLIPSE JUNIOR" is the name of a new brand of plates just placed upon the market by Mr. JOHN CARBUTT, Wayne Junction, Philadelphia, Pa., to meet the increasing demand for a thoroughly good and reliable plate, rapid and easy to handle, obtainable at a low price. We have given the "Eclipse Junior" a careful trial and can fairly commend it to the professional or amateur. It is extremely rapid and suitable, therefore, for instantaneous work in the studio or outdoors. It has a rich body of silver and gives a finely graduated negative. The price is much lower than that asked for the regular high grade brands. Our tests of the "Eclipse Junior" included at-home portraits, taken at one-fifteenth second, Goerz Lens, Series II., *f.* 7/7; street scenes at one twenty-fifth second, and time exposures with the Bausch & Lomb Ray-filter in landscape work. We fail to distinguish the resulting negatives from others made on first-class brands. It may be safely predicted that the "Eclipse Junior" plates will speedily win a popular place with large consumers.

Camera Notes, the official organ of the New York Camera Club, vol. i. No. 1, has reached our table. It is a beautifully illustrated journal, to be issued quarterly by the society mentioned. The contents of the number comprise Mr. WOODBURY'S paper on "The Chassagne-Dansac Color Process" and the proceedings of the Camera Club. We note that the Club has 254 members, and a balance (assets over liabilities) of over $2538.

THE AMERICAN ARISTOTYPE CO. has issued a list of prizes, amounting to $1000, to be given to the winners of the principal prizes of the Celoron Convention. To secure these special awards pictures must be printed on aristo-platino paper. A recent interview with PIRIE MACDONALD, of Albany, given in the *Pointer*, states that Mr. MACDONALD prints 95 per cent. of his work on aristo-platino.

THE FORTY-SECOND ANNUAL EXHIBITION of the Royal Photographic Society, London, will be held from the 27th of September to the 13th of November, 1897. Medals are offered. Full particulars can be had from the Secretary, R. P. S. G. B., 12 Hanover Square, London, W. We would strongly urge that American photographers send their best work to this famous exhibition.

A COLLECTION OF PORTRAITS recently shown to us by Mr. M. A. NYE, made by well-known photographers using the Hammer plates, offered convincing proof that these famous plates are unexcelled for fine studio work. The prints showed excellent negative work, the rich transparent shadows so desired by good operators being a conspicuous feature. Mr. NYE reports greatly increased sales for the Hammer plate in the East, which he attributes to the large number of photographers using them in the preparation of their convention exhibits.

First Step in Photography is the title of a little pocket manual (25 cents) of 52 pages, written by Mr. F. DUNDAS TODD, editor of the *Photo. Beacon*. The first edition of this work was taken up before publication, and a large part of the second edition is, we are informed, already sold. The book is written for beginners, in a clear and simple, but very direct way. We commend it, as a first book for those taking up photography, as unhesitatingly the best of its kind. Published by the Photo. Beacon Pub. Co., Chicago, Ill.

A VERY HANDY LITTLE CATALOGUE of photographic sundries, 120 pages, pocket size, illustrated, has just been published by Messrs. JAS. H. SMITH & Co., 311 Wabash Avenue, Chicago. We advise our readers to secure a copy of this little reference-book of apparatus and supplies; copies may be had on application. The specialties offered by Messrs. J. H. SMITH & Co. are carefully selected for their practical usefulness and comprise some of the best of their sort on the market. The catalogue under notice will doubtless surprise many who have not yet realized the scope of the business of this long-established house. In its pages, carefully indexed and arranged, may be found almost everything needed for the equipment of the professional photographer from Baldwin's baby-holder to the famous Globe enameler and Celerite paper.

ARTISTIC PHOTOGRAPHS BY KUPPER.—As announced in our last number, Mr. L. V. KUPPER, Edinboro, Pa., whose beautiful landscapes and sunsets have been so much admired at the conventions, has decided to offer permanent platinotype prints from his prize negatives to those who desire them. We commend this enterprise to all who love pictures from nature. Mr. KUPPER'S pictures are decorative in the highest sense, and are therefore appropriate for the embellishment of the home or photographer's rooms. A list of the titles, sizes, prices, etc., may be seen in our advertisement pages.

THE BUSINESS HEADQUARTERS of this MAGAZINE at the Celoron Convention will be found in the space occupied by Mr. G. GENNERT, of our city. Sample copies of the MAGAZINE may be obtained and subscriptions received there. A full line of Wilson's standard photographic books will be on file for examination and sale. Give us a call.

SEED'S POSITIVE FILMS are running high in favor this season. They offer an easy means of producing beautiful pictures, and should be kept in stock by every progressive photographer. We have used them with pleasure and satisfaction.

THE CRAMER PLATE will be represented at the Celoron Convention by one of the finest displays of photographic work yet seen in America. The list of exhibitors whose work is "made on Cramer plates" is larger than ever, and includes many of of the leading photographers in the profession.

MONEY PRIZES OFFERED.—One hundred and twenty-five dollars in cash has been offered in prizes by the League of American Wheelmen for photographs of bad country roads. The pictures are to be used in the work of its National Committee on Highway Improvement, and are to be sent during this year to the chairman of this committee, Mr. OTTO DORNER, Milwaukee, Wis. The competition for these prizes is not limited to members of the L. A. W., but is open to all alike. The committee has set aside a first prize of $50, a second prize of $25, a third prize of $15, a fourth prize of $10, and five prizes of $5 each. Prizes are to be awarded on single pictures, and no two prizes will be awarded to a single person, though it is expected that many of the competitors will submit a number of photographs. The pictures desired are to show the inconveniences and losses resulting from poor highways, especially to farmers. The League of American Wheelmen has published extensive literature on good roads, and the best of the pictures received under this prize competition are to be used in illustrating articles and pamphlets on that subject. It is expected that members of the L. A. W. and wheelmen generally who are able to use the camera, whether amateurs or professionals in this line, will assist in this work by sending in pictures of bad roads, and incidentally taking part in the competition for these cash prizes.

THE JULY CHEMICAL LIST OF MESSRS. CHAS. COOPER & CO., 194 Worth Street, New York, is announced as ready for those who desire it. Free on application. This list gives the prices current of all chemicals used in photography and kindred arts, with the decrease or increase in price since the last list issued. Wood alcohol and nitrate of silver are marked "decline," the latter being listed at 48 cents per ounce.

MESSRS. ROSS & CO., London (G GENNERT, 24 East Thirteenth Street, New York, American agent), send several interesting booklets giving detailed information of their photoscope marine glass and camera, enlarging apparatus, convertible anastigmats, and Ross-Hepworth arc light for projection purposes. All who desire to keep themselves informed of the progress made in photographic apparatus and optics should send for these booklets.

PANORAMIC PHOTOGRAPHY.—An old and esteemed subscriber sends the following letter of interest to the craft:

"DEAR SIR: I have taken and read your valuable journal ever since it was first published, and I have been greatly benefited thereby. The article by FRANKLIN A. NIMS on 'Panoramic Photography,' in the February number, page 56, is, however, somewhat erroneous. He says: 'The practice of making two or more negatives of a scene and printing them so as to make a continuous picture with the appearance of having been made from one negative is of comparatively recent date in America—that is, twelve or fifteen years.' That method of making pictures was done here in the East many years ago. The late J. W. BLACK, of Boston, made them in this vicinity thirty-eight to forty years ago. I made them thirty-four to thirty-eight years ago, and there were many of that class of photographs made of the great fire in Boston. These pictures were very common at that time, and were as good as any photographs made in those days; they were not considered very difficult to make, the manipulation being only a matter of patience. Of course, at that time they must have been made on wet-plates. It may be true that Mr. W. H. JACKSON, of Denver, Colo., can make pictures better than it is possible for anyone else to make them, but when Mr. NIMS calls him the pioneer of that class of work he must go back a much longer time than 'twelve or fifteen years.'

"N. W. PEASE.

"NORTH CONWAY, N. H., April 12, 1897."

MESSRS. PENROSE & CO., 8 Upper Baker Street, London, W. C., send us their latest catalogue, embracing all the apparatus and supplies used by

process-workers. This catalogue is profusely illustrated, and may be spoken of as a complete education in itself for those beginning reproduction work.

AT THE ANNUAL MEETING of the Minneapolis Camera Club, held a few weeks ago, the following officers were elected for the ensuing year: President, W. B. ANGIR; Vice-President, W. H. MCMULLEN; Secretary, C. J. HIBBARD; Treasurer, G. A. WILL.

Ray-Filter Photography, beautifully illustrated with engravings of cloud and landscape pictures, is one of the most pleasing booklets of the year. Copies may be had gratis from the BAUSCH & LOMB OPTICAL CO., Rochester, N. Y.

THE CLIMAX PLATE will be represented at the Celoron Convention by Mr. C O. LOVELL in person, with several *aides*, and a grand display of work "made on Climax Plates." This plate is making rapid headway among professionals and amateurs of prominence, in which progress its popular price and excellent qualities doubtless have great influence.

A STRANGE COINCIDENCE.—Mr. LANDY, the well-known Cincinnati photographer, relates a peculiar coincidence which occurred some years ago, and which will doubtless be read with interest by photographers everywhere. He says that some time ago an insurance man was in his office and that the conversation turned on strange and unusual causes of fires. Many an innocent man, he believed, had suffered unjust suspicion and punishment for fires which had not been caused by him. He cited as an instance the case of a fire which had occurred a short time previously, burning down one of the finest residences in Cincinnati, and the cause of which was at first the subject of much speculation, but which was afterward found to have been caused in a very novel manner. For several months previous to the fire the house had not been occupied, the owner and his family having gone on a trip to Europe, so it seemed the fire could not have been started except by an incendiary. After a long time the insurance companies and authorities came to the conclusion that the fire had been caused by the sun striking a reading-glass, which was known to have been placed near a window, and by focussing the heat, setting fire to a newspaper lying under it, and from there communicating to the rest of the building. Mr. LANDY was relating this to his friend, who, while interested, appeared incredulous, and Mr. LANDY, to illustrate to him how the fire must have been started, drew him toward the front of the office where a graphoscope was standing, facing the window, with a life-size portrait of President HAYES, directly behind it. He started to adjust the instrument so as to make the illustration, and was just saying, "Here is how—" when he saw to his wonder and astonishment that the very case he had been describing was being duplicated in his own gallery. The picture was already scorched and burning slowly, and as he started to remove it the fire burst into a flame. It was quickly subdued, and an examination showed that the focussing power of the glass in the graphoscope had indeed acted as in a burning glass, and had set fire to the picture. Mr. LANDY still has the half-burnt picture stored away, and offered to produce it for reproduction with this account.

ACETYLENE GAS IN PHILADELPHIA.—The PHILADELPHIA FIRE UNDERWRITERS' ASSOCIATION has decided to grant permission for the use of acetylene gas in liquefied form under pressure for lighting purposes, provided that the pressure of gas on the piping in the building to be assured shall at no time exceed one-quarter pound per square inch, and that the cylinder containing the liquefied gas under pressure and all pressure-reducing and safety devices be located outside of such building, and in a separate building well ventilated to the outer air, but of sufficient strength to protect the apparatus from outside interference and from the weather (especially the sun's rays); and that the supply-pipe for the building be provided with a hand-valve just inside the building assured, so that the gas may be entirely shut off from such building. It is also provided that the cylinder containing the liquefied gas under pressure shall be equipped with a safety valve to protect against both excessive pressure and unusual increase of temperature, and that both the pressure-reducing and the safety (mercury) valves shall be provided with vent-pipes opening into the outer air, and that no acetylene gas or calcium carbide shall be stored on the premises.

THE GOERZ SECTOR SHUTTER (C. P. GOERZ, 52 Union Square, New York), although only introduced a few months ago, has already won considerable favor. We are informed that the manufacturer finds it difficult to supply these shutters as promptly as he would like, the demand being at present greater than the supply. A new importation is, however, expected daily, which will enable him to fill all orders as soon as received.

BLACK TONES ON VELOX PAPER.—Will our readers please note that when black tones are desired with glossy or carbon velox paper the following formulæ are advised instead of those given at page 278 of our last number.

Any of the following formulæ can be used with success. Be sure, however, to have your chemicals pure, and do not let your developer become spoiled by oxidation; therefore keep it in small well-stoppered bottles filled to the neck—rubber stoppers are recommended.

It is almost invariably necessary, in order to prevent foggy or stained whites in your print, to add a small quantity of a 10 per cent. bromide of potassium solution to the developer. This quantity will vary according to purity of chemicals and water. Glossy velox usually requires more of it than carbon velox.

Too weak a developer, or one that is oxidized or contains too much bromide, will give greenish- or brownish-blacks. Lack of bromide will give dirty or stained whites in your print.

Amidol.

Water	4 ounces.
Sodium Sulphite, crystals .	200 grains.
Amidol	20 "

Ten per cent. bromide of potassium solution, about 5 drops.

Metol.

Water	10 ounces.
Metol	25 grains.
Sodium Sulphite, crystals .	½ ounce.
Sodium Carbonate, desiccated[1]	120 grains.

Ten per cent. bromide of potassium solution, about 20 drops.

Metol-quinol.

Water	10 ounces.
Metol	7 grains.
Sodium Sulphite, crystals .	½ ounce.
Hydroquinone . . .	30 grains.
Sodium Carbonate, desiccated[1]	300 "

Ten per cent. bromide of potassium solution, about 10 drops.

The formulæ and manipulations given in the "Notes on Velox Printing" in our last issue were intended for purple tones on velox paper, and are not suited for black tones. Full particulars of the manipulation of the various sorts of velox papers can be obtained gratis from the NEPERA CHEMICAL Co., Nepera Park, N. Y.

MESSRS. J. B. COLT & CO., 115 Nassau Street, New York, have largely increased their stock of negatives for the supply of lantern slides by securing the Muybridge collection of negatives illustrating the photography of movement. Dr. BIRCHMORE, late of the American Museum of Natural History, has associated himself with the Messrs COLT & CO. as an expert in optical and scientific matters.

[1] If you use crystallized carbonate of sodium, take double this quantity.

ROSS-ZEISS CONVERTIBLE ANASTIGMATS.—The present season has shown in a very convincing way that the convertible anastigmat is likely to be *the* lens of the future in a large measure. Mr. G. GENNERT, 24 East Thirteenth Street, the sole American agent for the Ross-Zeiss lenses, tells us that he has sold more of the convertibles than of any other imported lens of recent introduction. A special lens catalogue, just issued by Mr. GENNERT, fully informs the photographer of the possibilities of this latest objective, and should be seen by everyone interested in photographic optics. A selection of convertibles will be one of the attractive features of Mr. GENNERT'S display at Celoron. Don't miss it.

WE are pleased to learn that a grandson of our old friend and co-worker, Mr. W. H. SHERMAN, of Milwaukee, Wis., has graduated with honors from the Philadelphia Textile School, and has secured the position of assistant designer in a factory at Wayne. His worthy grandsire, whose contributions to photographic journals have made him known to photographers all over the world, is now in his seventy-seventh year, and as active as ever in his profession, a firm believer in albumen paper as the best of all printing papers for general use, and a persistent user of wet collodion plates where he thinks their use of more advantage than the now universal dry-plate. Many happy, useful years to them, grandsire and grandson.

MRS. E. M. WHITE, late with DANA, of this city, has established herself at 111 Nassau Street, as a colorist and retoucher for the trade. Those seeking a capable artist in these branches cannot do better than place their work with Mrs. WHITE. She is the holder of the only award given by the National Association for artistic colored work, and an extremely skilful woman in all that pertains to miniature painting, photograph coloring, or retouching of negatives.

THE EASTMAN KODAK CO., Rochester, N. Y., announces an amateur photographic contest, with prizes amounting to $2853. Particulars may be had on application to the EASTMAN CO.

"DREAMS OF EMPIRE." J. C. STRAUSS ST. LOUIS

NEGATIVE ON CRAMER PLATE
PRINT ON VELOX PAPER

WILSON'S PHOTOGRAPHIC MAGAZINE.

EDITED BY EDWARD L. WILSON.
JOHN A. TENNANT, Associate Editor.

VOL. XXXIV. AUGUST, 1897. No. 488.

ON THE GROUND-GLASS.

DESPITE the uncertain tone of the weekly commercial reports, *The Ground-Glass* focusses upon a decided improvement in business as far as professional photography is concerned. This focussing is the result of a round trip among the New York studios and the receipt of quite a number of inquiries from central and western States as to the desirability of higher prices in portraiture. Wherefor let the weaker brethren note the words of Fenelon, "hold fast and be of good cheer," looking and working for the better days at hand.

The report from several of the prominent photographers of our city may be summarized in a few words. They have experienced a much busier season (December to May) than was anticipated. There has been a fairly large demand for the better grades of work; matt-surface pictures, carbons, and platinotypes are received with increasing favor, despite their higher prices; and there is an encouraging tendency to greater frequency of orders for large and important work. The old-established galleries have apparently held their own in a satisfactory way, although several new men have entered into the field and pushed business after a lively and successful fashion. One firm, after only five years' growth, showed with pardonable pride a year's salary list amounting to almost $30,000. A new studio has been established for children's portraiture exclusively, and another will double its prices for its specialty at the opening of the fall season.

These facts are surely encouraging, and the other fact, that the minds of many are set on better prices, shows at least a more hopeful spirit. Business men don't talk of higher prices save on a rising market. May this new spirit grow! Every convention helps, every photographic journal appreciating its mission helps, and every photographer who is in touch with these two agencies helps to advance his profession and his own success.

Not long ago a young photographer asked the conductor of *The Ground-Glass* what would help him most in his daily work. Instantly there appeared on *The Ground-Glass* the one word, *thought.* Thought is a two-edged sword, and the photographer who thinks is therefore doubly equipped. Thinking widens the man, awakens him to a better sense of his particular needs and a broader culture; sends him to the conventions ready to grasp what is essential to his growth, and to throw aside the chaff which can only

deter his progress. Thinking develops ideas—right thinking differentiates ideas, right and wrong, profitable and unprofitable. Thought is the easiest road to success.

There was a photographer, a few years ago, who worked along lowly ways in a small town. His work was "what the public called for," average in quality, low in price. The weariness of the daily grind oppressed him, its monotony discouraged, and its uselessness disgusted him. A thought stirred in his mind, and he awoke; life opened up, new ambitions came, and thought brought into view possibilities in his work. The realization of ideas brought courage. Burning his bridges behind him, he boldly ventured into the widest and most difficult field of enterprise, a metropolitan city, crowded already with capable workers. That was less than five years ago; his evolution took place in the most severe business depression photographers have known in this country, and yet to-day that man stands in the first rank of the profession. The name is hidden, but the facts are unimpeachable. This thought did; this thought will do again for one—perhaps for ten men—during these next few years. Think as you focus for success.

Photographers interested in radiotint photography (the Dansac-Chassagne process) will have to exercise their patience a little longer. The venders of the requisite material, Messrs. E. & H. T. Anthony & Co., announce that they will not put the supplies on sale until perfectly satisfied, by experiments now proceeding, that the process is completely feasible and practical. They hope to be able to fill the orders for materials now in hand about August 1st. This announcement confirms the statement in a former *Ground-Glass* that purchasers of supplies for the new process will be adequately protected whatever be the final outcome of the process itself. Pending developments it is worthy of note that Thomas Bolas has contributed to the *Journal of the Society of Arts* a fairly complete bibliography of the subject of color-photography. This is full of curious information, and recalls many interesting attempts at the solution of the great problem.

EXPOSURE-METERS, AND OTHER THINGS.

BY W. T. WILKINSON.

When exposure-meters were first introduced they were looked upon by many as utterly superfluous and of no account, but nowadays they are used by hundreds of photographers, not only amateurs and beginners, but by professionals and old hands; the reason is not far to seek, it being simply on account of the varying speed of plates, as well as a general desire for good work, which can only be obtained by correct exposure. Exposure-meters may be divided into two classes, viz., those which depend upon a certain amount of guesswork as to what the actinic value of the light is, or ought to be, at a certain hour on a certain day of the year, and those which, by means of sensitive paper and a standard tint enable a test of the light to be made, which test at once gives a reliable factor from which the exposure required can be deduced; the first class are rapidly being superseded by those of the second, as their very usefulness only served to emphasize their shortcomings.

The best meters in the market are those by Watkins, who, in addition to introducing the first reliable meter, has supplemented it by publishing very elaborate

researches upon the subject of the relation of exposure to development. The first meter introduced by Watkins was, in my opinion, too clumsy an instrument to find universal favor, and required too much adjustment to be popular, but his latest instrument, in the form of a watch, is capital, and is very simple to use. Suppose that your slides are filled with Carbutt's Eclipse Plates, and that it is intended to work the lens at *f*/16, then the *f*/16 on the diaphragm scale is placed opposite 100 on the outer or fixed scale, and that is the only adjustment required until another diaphragm is to be used, and even then the calculation can be made from *f*/16. Suppose the day is sunny and the first exposure to be made is a subject with deep shadows, then, having drawn a piece of fresh sensitive paper outside the standard tint, expose this to light in the shadow of your body; if this takes ten seconds to tint the sensitive paper to the same as the standard tint, then, by looking at 15 on inner movable scale to right of diaphragm scale on outside or fixed scale, opposite the figure 15 will be found the figure 2 upside down; this indicates that one-half of a second will be correct exposure for stop 16 on an Eclipse Plate. Again, it is required to make an exposure on the same plate with the shutter working at one-twenty-fifth of a second. What aperture must be used in the lens to get a well-exposed negative, the subject being well lit by sunlight? On trying the power of the light in the direct sun the paper darkens to a standard tint in four seconds; therefore move the A scale till four is opposite one-twenty-five; glance down the outer scale to 100, the P value of Eclipse Plates, and opposite 100 is *f*/8, showing the lens must be worked at *f*/8 to give a fully exposed negative in one-twenty-fifth part of a second. From my experience up to date every negative that I have exposed according to the meter has been successful, and all in which I have considered I knew better than the meter have been wrong.

After exposure the development of a negative is the next important step, and Mr. Watkins has formulated a plan whereby it is next to impossible to get wrong, and as it entirely does away with having to examine the progress of development, briefly stated, the time is noted between pouring on the developer and the first appearance of the image. This time is multiplied by the factor suitable for the particular developer used, and the sum gives the time that must be allowed for the completion of the development. With an ordinary pyro-soda developer the factor is five, and if the image is one minute before showing, then at the end of five minutes, counting from the pouring on of the developer, the development is complete; and from some hundreds of trials I find that the theory is correct in practice, both for outdoor work and for copying. It is especially useful when working isochromatic plates, because, there being no necessity for close examination to get the correct density, there is less risk of fog; consequently, those plates are just as easily manipulated as a slow ordinary plate.

I do not know what developer is in general use in America for bromide paper, but here, in England, ferrous oxalate is mostly used, but it is being fast supplanted by amidol. The worst feature about amidol is that it does not keep long when in solution, but this can be remedied to a great extent by dissolving the sulphite of soda in cold water; if hot water is used the sulphurous acid is discharged and the amidol soon deteriorates. I make a saturated solution of sulphite of soda in cold water, and, by using 4 grains of amidol and 5 minims of a 60-grain solution of potassium bromide, or, better still, barium chloride, dissolved in 2 ounces of saturated solution of

sulphite of soda, twelve half-plate prints can be developed, no acid wash is required, and there is never any yellowness. For developing lantern-slides the above developer is capital, and it does its work in half the time taken by hydroquinone.

From correspondence, etc., in your pages, gelatino-chloride paper in America does not seem to be as successful as it is over here, but why that is so it is difficult to understand; here it is quite certain albumenized paper, like wet collodion, for general work, has seen its best days, and I for one am glad of it, simply on account of its undoubted liability to fade, and the worst of this fading is its uncertainty. I have prints made twenty-five years ago as good as can be wished for, but alongside them others made at the same time and with the same treatment, entirely faded. I have gelatine prints made in 1881, on paper made by myself, that are as fresh as ever; also some made on the first lot of commercial paper, also good and fresh.

Is the reason of gelatine chloride being abandoned the fact that it requires more careful handling than albumen, or that there is a difficulty in making the negatives to suit a paper that is not sensitized at home? In the old days, if the albumen prints were not just right, a modification of the strength of the silver bath was all that was required to bring things right; but now, when an emulsion is used, perhaps it does not always suit the negatives. This I find is what has happened to me: a fresh batch of paper from my usual maker does not give such good prints as did the old one, then a change to some other maker sets things right; sometimes two or three have to be tried before the right one is obtained; then, again, gelatino-chloride paper must be kept free from damp; prints made upon dry paper differ in everyway from prints made upon paper allowed to absorb moisture, especially tainted atmospheric moisture. At the same time, if the paper is bone-dry another element of difference is introduced. Of course, something of the same nature had to be contended with with albumen, but it was in an inverse way—*i. e.*, the drier albumen paper was the worse prints it gave. Certainly gelatino-chloride paper requires more careful handling than did albumen, but this ought easily to be managed. One thing is certain, it is not possible to work both albumen and gelatine together, nor should two makers' paper be worked in the same batch. Thorough washing before toning is an important detail, also.

THE VANDYKE STYLE IN PORTRAITURE.

BY GEORGE G. ROCKWOOD.

THE new ultra-artistic phase of photography, which I have designated the Vandyke style, is a successful effort to remove portrait photography from the realm of genre composition to the simpler forms of the old masters. There has been for years a tendency to unite or blend the art of portraiture with the genre or composition school to such an extent that accessories have more than divided the interest with the figure or subject of the picture.

Those who have been present at late conventions of photographers may recall that I have dwelt quite at length and frequently on this subject in my talks to the craft, both on the platform and in private. I am, of course, glad to see that my counsel has been accepted, and many of the younger members have improved in their work thereby. Many who last year so divided the interest between background or accessories and sitter that it was difficult

to determine the intention of the artist, now give forth "no uncertain sound" or meaning.

It is not unwise at times, especially with children, to make a story-telling picture which would prove of value when the photograph had ceased to be of interest as a portrait. Many of my own pictures of this nature, such as "A Possible President," "Fine Feathers Make Fine Birds," "Sunshine and Shadow," "Two of a Kind," etc., have run into editions of a half million copies, and I do not propose by any means to lose interest in this branch of our business. But in treating adults, and especially representative men and women, we have resumed efforts in the line which I began many years ago in the days of our distinguished French artist coadjutor—M. Adam Salomon, of Paris.

Since then travel, study, and the development of art culture and training enable a larger number to appreciate the ultra-artistic effects now possible in photography. In a word, this treatment means to not only subordinate everything to the portrait, but to go a step farther and *subordinate everything in a portrait to the head or likeness alone!* Rembrandt, when he painted a portrait, used a skylight less than two feet square. In this beam of light he placed his sitters, and, as may well be understood, nothing could be seen but the head in this manner illuminated. There was nothing to divide the interest or distract attention from the portrait. The work of no other master has ever equalled his portraits.

In this line I have for many years worked for artists and connoisseurs, until now there is a positive demand and appreciation of this new-old-style of portraiture. By this manner is developed the strong personality, character, and beauty of the human head, and in but a few cases have I failed to find it complimentary.

The most persistent stickler for the ultra-artistic effects in portraiture has been Mr. James Inglis, whose work in this line fully twenty years ago drew me from New York to Montreal on a special trip to see, to study, and to learn. That this will be the dominating school of the leaders in our art is no longer in doubt, as the last Celoron Convention demonstrates, and is in evidence in the large number of such photographs being used in the illustrated papers.

A very practical outcome will be the doubling and trebling of prices and the maintaining of rates.

THE IMPROVEMENT OF NEGATIVES.[1]

BY L. BELITZSKI.

It is well known that in the better class of professional businesses much can be done by retouching, and all sorts of printing dodges, to obtain better proofs from negatives originally defective; less known and used are, however, the various chemico-physical and mechanical methods for the improvement of negatives, by means of which often a great deal can be effected. The artistic dodging is not rendered superfluous, but very considerably assisted, and also a great deal attained which the best retoucher can scarcely do.

How important these improvements are, and how often they are necessary, is proved by the number of articles in the technical journals, for even with the greatest knowledge it is not always possible to prepare with certainty a normal negative, as frequently the necessary conditions are not fulfilled, and in many cases this is due to the public. The photographer must there-

[1] From Eder's Jahrsbuch, 1897, translated in Photographic News.

fore try, when negatives which cannot be repeated have been made under such unfavorable circumstances, to improve them as far as possible. When I undertook to write upon this subject I decided to include only those methods which had been actually tested in practice, and which have been proved for a long time; there will therefore be found some things which have been known for a long time, and also some new things.

First of all, I consider it absolutely essential that either quite wet or quite dry negatives should be used, and I prefer the latter.

Let us deal first with foggy negatives—we have to determine whether the fog is metallic or a stain. The pure silver fog is easy to remove, but its removal should only be determined upon if the negative has been sufficiently exposed and developed, for an under-exposed and thus hard negative will be made harder still by the removal of the fog, and it may easily happen that it will print harder and worse after removal of the fog; it is therefore advisable to treat only those negatives which have been well over-exposed.

With only slight fog, if one has the time, it is quite sufficient sometimes to leave the negative in an acid fixing bath for from one to twenty-four hours, especially if when occasionally looking at them they are left exposed to the air for some minutes, for in the presence of oxygen metallic silver is slowly dissolved by hypo. Also a faint stain is often removed by this long bath, and the negative is generally cleared. If the fog is stronger, the acid fixing bath is not sufficient, and recourse must be had to a reducer. The acid green reducer suggested by me is very suitable for this, and does its work in a few minutes, still its operation must be interrupted at the proper moment as its action goes on a little; sometimes it happens, especially when used locally, that this reducer gives a yellowish tinge to the negative, which is due to a basic iron salt; after well washing, which is, of course, necessary with this reducer, as it contains hypo, this yellow stain can be readily removed by an acid alum bath, such as alum 5 parts, hydrochloric acid 1 part, water 100 parts.

This reducer has the property of reducing the negative tolerably evenly without making it much harder, whilst Farmer's does this in a marked manner. It is as well here, also, to choose the reducer according to the character of the negative, and whether mine or Farmer's shall be used. The latter consists of a freshly-prepared mixture of a 10 per cent. solution of red prussiate of potash and a similar solution of hypo. For very dense and long-exposed negatives this is to be preferred.

A solution of iodine in potassium cyanide solution has been recommended to remove strong negative fog, and in bad cases such a solution does very great service. This reducer, in which there is still undecomposed potassium cyanide, potassium iodide, and cyanide of iodine is, on account of its volatile and highly poisonous cyanide of iodine, so prejudicial to health that it is unnecessary to say more in recommending it to practical workers. If it cannot be helped, and this must be used, it should never be used in a room, but always in the open air, and then only with care, so as not to inhale its poisonous fumes.

Color fog or stain, which I have already mentioned, is generally due to the oxidation products of the organic developers, especially with free ammonia or too small a quantity of sulphite in the developer. It is much more difficult to remove than silver fog, but as the properties of the organic developers have been learned it should no longer occur. If this fog, which is mostly more or less yellow or brown, has been once formed, then of all the many remedies free chlorine or bromine is the most effective. A solution of 3 parts

of liquid bromine, 10 parts of potassium bromide, and 100 parts of water, which should be only used in the open air, converts the silver image into silver bromide, and at the same time destroys the stain. The silver bromide image is, after sufficient washing and exposure, again converted into a black silver image by hydroquinone or another developer, when, as a rule, the stain will not reappear. Last summer, amongst a great many others, a brown negative was sent to me which could not be cleared by free bromine.

Most of the faults are due to incorrect exposure, and are, under everyday conditions, not to be avoided, even with the greatest knowledge and care. With intense light in the bright time of the year, half a second more or less exposure in the studio may make a negative very bad, and in such cases a rational reduction or intensification, and frequently local, is absolutely essential.

If a negative appears, through slight over-exposure, rather too quickly, the developer should be poured off and replaced by old, or some potassium bromide added to it. If this has not the desired effect, it should be developed some minutes longer, so that the image almost disappears when looked at, and it should then be reduced, after fixing, till it has the desired transparency and vigor. Better modelling and vigor is obtained in this way. With too long exposure and consequent flatness of the negative, no method of improvement has given me better results than complete intensification with mercuric bromide, 1 part mercuric chloride, 1 part potassium bromide, and 50 parts of water, till the negative is white right through. After washing, the negative should be laid in a 20 per cent. solution of sodium sulphite till it has become black through to the glass, and it is then washed and dried. The negative is then generally much too dense and unprintable. It must now be again reduced, and for this work a solution of potassium cyanide, 1 : 400 or 1 : 200 is better than hypo. In order to use this in a convenient way, I break the commercial cyanide up into small pieces, and put them into a well-stoppered bottle. I also fill another bottle with caustic soda broken up. To make the reducer, one or two pieces of cyanide and a small piece of caustic soda—without troubling to weigh them—are dissolved in water. The addition of the caustic soda instantly destroys the unpleasant and dangerous smell of prussic acid, so that it may be used without inconvenience. When necessary, the solution is filtered, and the bottle cleaned with hydrochloric acid. This method is fully described, because I consider this very useful for the improvement of flat, over-exposed negatives.

The reduction of over-intensified and then dried negatives takes place very evenly; the negatives thus obtained are often so very beautiful that they frequently are taken for normal ones; the color is good when they are dried, and is very suitable for retouching. Care must be taken not to carry the reduction too far, for, after drying, the negatives thus obtained appear far more transparent than is desired. Moreover, negatives which have been made more full of contrasts print in this way, as a rule, better than one would think from their appearance. A proof should be taken after drying, and the reduction repeated if the negative is still too dense.

Far more difficult to treat is the case when the negative has been reduced too much, or if it has been developed too little, and is, therefore, too thin, so that the intensification with mercury is insufficient.

In such a case as this mercuric iodide should be used. In order to prepare this solution, add 2 parts of mercuric chloride to 6 parts of potassium iodide and 20 parts

of water, and place in a bottle and shake till a perfectly clear colorless solution is formed, and then add 380 parts of water. Or the solution may be made by dissolving the mercuric chloride in half the water, the iodide in the other half, and mixing the two solutions.

I must say that I do not willingly use this solution, but as, when properly used, it acts very well, and has frequently helped me out of a difficulty, I strongly recommend it. It is advisable, when working with poisonous liquids, to dabble the fingers in the same as little as possible, and to wash them well, or else wear a pair of India-rubber finger-stalls. The mercuric iodide is used as follows: The negative which is too thin, whether insufficiently intensified or reduced too much, after well washing, or, better still, previously dried, is placed in the liquid and moved up and down with a plate-lifter, and looked at from time to time to see whether the density is sufficient. This, if it has not been much used, acts very quickly and intensely. The color which this solution gives is not beautiful, for it is a mixture of yellow, brown, and green; and the negatives in this state will only keep for a short time. In order to remedy this, the negative should be placed film downward in a dish of water, and the water should be changed three times, and then placed in a 1 to 5 solution of sodium sulphite. At first this seems to exert no action, but after about an hour, or half an hour, the unpleasant color gives place to a uniform gray tone, which both for retouching and printing is very good, and, above all, is permanent. I have seen no change in negatives thus treated years ago. After the sulphite bath the negative must be again well washed before drying. Should this, after intensification, prove to be too much, it may be reduced by immersion in the weak potassium cyanide solution, or extra dense parts be painted with a camel's-hair brush and then well washed.

This correction of too dense places on intensified negatives by careful painting with potassium cyanide and subsequent washing is very practical, and leaves behind it no lines or stains. Of course, the same process may be applied with the acid green reducer, but this is much more tiresome, and must be much more carefully done if spots and stains are to be avoided. This local reduction ought never to be done in one operation, but after application of the brush the negatives should be washed and the same operation repeated till the desired effect is nearly attained, for the potassium ferric oxalate acts slightly during washing.

Should a negative which has been treated with mercury turn yellow in the course of time—and this is always due to careless working—then a weak solution of ammonium sulphydrate should be used in the open air, and the mercury and silver compounds will be blackened.

Quite a different method to intensify flat negatives and make them richer in contrast is to bathe them for some minutes in a 10 per cent. solution of potassium bichromate and dry them in the dark. When dry, the negative thus treated should be exposed from the back for some minutes to daylight, supporting it on a piece of black cloth. By this exposure the transparent parts of the negative will become quite horny and the opaque parts also to a certain depth, and they will no longer swell up in water. The potassium bichromate must now be washed out or until the water no longer shows a yellowish tinge.

If the negative thus prepared be laid in a solution of Chinese ink or some other coloring matter and the exposed parts will not suck up the solution, which is absorbed only by unexposed or partially exposed parts, and there is formed a negative no longer flat but richer in contrasts, which, if everything has been carried out properly, can be very good. It will be at once seen

with a little thought that this method is not very certain, for, if too little exposure be given, the transparent parts of the negative also suck up the coloring matter, and if the exposure is too long it may happen that no part of the negative will take the color, as the whole has become horny and cannot be intensified in any other way.

Now let us turn to the improvement of negatives which have been insufficiently exposed, and are, therefore, too full of contrast, and negatives which are hard from over-development, and let us see how these can be improved.

It should first of all be noted that it is always better when under-exposure is noticed to dilute the developer, or, what is always necessary with short exposures, only to develop till the shadows have just been brought out. With a relatively long exposure the high-lights increase too much and the improvement of the negatives is rendered much more difficult.

From an under-exposed negative, developed for a short time, it is much easier to subsequently obtain something useful than when it has been developed only a little too far; for if it is desired to reduce the negative to the necessary transparency of the high-lights, it will become much harder. This is the chief thing to remember: that by reduction the contrasts are increased, and by slight intensification are lessened, wherefore attention must always be paid to the development, quite independent of the necessary and possible modification of the developer for various times of exposure.

Many operators prefer plates which develop very quickly and vigorously, and, as a rule, they try to complete the negative in the development. Although this may seem to be simple and convenient, still, I do not consider it worth imitating, and prefer rather a plate which reproduces the shadows well and yet develops vigorously but more slowly even if one has to intensify more than once. When the plate does not become dense too quickly in the developer, it is easier to control the operations as the circumstances exactly require, and the final result is better.

In order to prove that it is better with short exposure rather to develop for a short time and to obtain the necessary density by intensification than to obtain the necessary opacity of the lights by continued development, a direct experiment can be made. Two small plates should be rather under-exposed, but both for the same time, develop them together in one dish and take one out before it has obtained the necessary density, and continue the development of the other. If now the plate which was developed for a short time is intensified so that the high-lights are equal to those of the other negative, it will be found that the intensified negative will give a picture decidedly better and much clearer in the shadows. Mercurial intensification brings the details in the shadows out much better, and the deep are not so black; it is, therefore, always advisable to intensify under-exposed negatives, and frequently only in the shadows. In order to be able to do this, without intensifying the lights to any extent, I have used in special cases for some years a process which gives excellent results.

A solution of the best gum arabic should be made as follows: gum arabic, 120 parts; glycerine, 20 parts; water, 150 parts; and when all is dissolved 50 parts of alcohol should be added, and the whole stirred till it is quite clear. This thick solution of gum, which in certain cases can be diluted with some water, should be pressed through a piece of coarse linen and kept in a well-closed bottle. This will keep, and may be used for all sorts of things, and it is also a good mountant. With this thick gum solution all places which are relatively too dense and which are not, or only slightly, to be intensified, should be cov-

ered on the film side fairly thickly and placed in a horizontal position to dry.

To facilitate the coating a small quantity of some coloring matter, such as Vandyke brown, may be added. A very exact adherence to the outlines is not necessary; it is better to go beyond the outlines rather than to keep inside. The negative thus prepared should be placed in the mercury solution, and the action should be carefully watched; the places not covered with the gum will become white, whilst those parts covered with the gum become dark. The plate should not be left in the mercury bath long enough for the gum to dissolve and the mercurial solution to reach the image underneath, or else stains will be caused. Before this happens the negative should be taken out and placed film downward in water. After a few minutes the gum will be dissolved; in looking through the negative it will be seen that the places which were covered are not in harmony with those that have been intensified, so that a good print cannot be obtained. The negative is, therefore, placed back in the mercury solution and only left in it till on looking through it appears harmonious. When the film of gum begins to dissolve in the mercury it penetrates the edges, and thus prevents sharply defined outlines. Of course, after this bath, the negative must be washed, blackened with sulphite, and then again well washed.

If this intensificaton is insufficient for the shadows of very thin negatives, it may be repeated, or instead of the bromide the iodide of mercury can be used.

If an under-exposed negative has been developed too long and too much, so that it shows great contrasts with glassy shadows and very dense high-lights, the following process may be used, and if a normal negative cannot be obtained, still a very much better result may be obtained: The dried negative is coated on the film side with collodio-chloride of silver and dried in the dark, and then exposed from the back, whilst it should be laid on a black support, till a distinct positive is visible. All transparent parts will naturally, in proportion to their transparency, be covered with a darkened film of collodio-chloride of silver, and in such a way as it would be impossible for anyone to do by any artificial process. It should be allowed to rather over-darken than too little. The plate should now be treated like a print, but not toned; it should be washed, laid for some minutes in a solution of common salt mixed with a little ammonia, fixed and washed as usual. The transparent parts of the negative are now more or less yellow. A proof print will show whether the yellow color is too intense. If this is the case, it may be removed by a weak solution of potassium cyanide, and if this will not attack it at first, then the negative should be laid in weak alcohol and then in water till it has lost all greasy marks, and then the cyanide will affect it. If by any chance this operation should be a failure the collodion film can be removed by rubbing with a tuft of cotton-wool soaked in alcohol and ether; the negative will then be in the original condition.

And now, in conclusion, I will mention a process which, if I am not mistaken, was suggested by Ladewig, for harmonizing harsh negatives.

The negative which is too hard is converted into chloride or bromide of silver, well washed, and then developed after exposure of the silver chloride or bromide, but only to such a depth that a more or less thick film of unreduced silver salt remains in the too dense parts next the glass. Then, after washing, the negative is fixed, and this unreduced silver dissolved away, and a much softer negative results.

That this method can and *has* given good results, is indisputable; still, there is a difficulty and some uncertainty, namely, exactly how far to carry the redevelop-

ment. If it is developed too little the negative is flat, and may be worse than the original; if it is developed too much, then the process is of little or no use. The only way to be sure of success is to take care that the whole of the silver is converted into white chloride or bromide of silver, so that it is possible to see from the back of the plate how far the reduction has proceeded, and interrupt it at the proper time.

The operations described here for inferior negatives will to many appear somewhat troublesome. Still, as it is only extraordinary work, that is not often required, no one should shrink from it, for the final result of being able to obtain better prints is worth all the trouble.

PAPERS FOR PROFESSIONAL PHOTOGRAPHERS.

BY JOHN A. TENNANT.

XXVIII. THE RENAISSANCE.

"WHAT is this renaissance in portraiture, and what is it worth?" asked a discontented photographer the other day, after the customary grumble about the condition of business. His eyebrows lifted in astonishment when I replied that it was a good thing, and that he should be ashamed not to have known it. From what followed I gathered that the subject was appropriate to these papers—which are designed to set photographers thinking—and so I offer my mite toward its appreciation.

The word renaissance, as you know, means a revival, and this involves movement—generally an advance movement. Every one will admit that, as a profession, photographic portraiture has long needed a movement of some sort. For years portraiture, with a few notable exceptions, has been practically moribund. Its *personnel*, repute, and standing have steadily declined from bad to worse; prices have been depressed below all reasonable standards, and the profession seemed, a few years ago, to have reached the level of a mere trade. The public wearied of photography and its methods, and with this weariness came stagnation of business and its attendant evils. Nor was this deplorable condition of affairs undeserved.

Those who recall the portraiture (average) of the eighties will readily agree with me that the "slump" in photography was simply the outcome of the decadence of the profession. This condition was foreseen and furnished the far-sighted ones with the opportunity to win a new and better success. Here and there a few men, discontented with their loss of *status*, and exasperated at their inability to retain their prices and the respect of the public, set themselves, single-handed, to remedy the evils under which they labored, each man working for himself. Their efforts had a strange success; others began to work in the lines they had marked out, and so the movement was inaugurated which, in its present form is called the renaissance. Briefly, its aim is to revive the better conditions, better repute, better prices, and better work which distinguished the profession in its earlier days. This is the renaissance.

What is it worth? is now a question which we may intelligently approach. Let us look at the working of the movement and see. Ten years ago the prices for cabinet pictures in American studios ranged from six to twelve dollars per dozen. The average work was of that kind aptly described as "the usual thing," its chief features being brilliancy of technique, artificiality, and an absurd "finish." It was made and accepted as a commercial product, the outcome of formulæ and me-

chanical skill. Variations in price were accounted for by such pretensions as "extra finish," "fanciful styles," "serrated gilt-edged cards," or the popular reputation of the studio. There were exceptions, of course, and some of the work of that period was more or less artistic and true, or had pretensions that way; but, as a general thing, portraits were "slicked-up counterfeit presentiments of people," presumably of those who paid for and distributed them. I remember the disgust and discouragement which came over me after my first review of the work of the New York studios of 1888; and as it was in New York, so was it elsewhere—always with exceptions. What could be the end of it all but demoralization and decay? And so it was.

When affairs seemed to have reached their lowest ebb a man came to New York and, single-handed, turned the tide. The rest of the country we put out of sight for the moment. This man's name is of no consequence; what he did was done for himself. He had the methods, but not the work, of the renaissance, and so he failed and disappeared, though he unwittingly opened the way wherein others are to-day climbing to success. Coming to New York when portraiture was barren as a profession, this pioneer of the renaissance began work in the aristocratic section of the city, established an exclusive studio, put out work which, whatever its faults, showed individuality, and revolutionized business methods by absolutely dictating the styles and prices of the work he would produce for his patrons. His audacity was inspiring; he would make nothing save cabinets and panel portraits, plain albumen prints, and his prices were $15 and $45 per dozen, respectively.

Of course, some of the old-established photographers pooh-poohed the venture as a fad of little or no importance. They pointed out the obvious fact that the man's work was peculiar rather than superior. So it was. But he had touched a higher key than they had dared, and reached, with that single touch, the respect and pockets of the best people of the city. The move was not overlooked, nor forgiven. Those who pooh-poohed were roused; improvements were the order of the day, and prices advanced in many studios for better grades of work. Then new men came, and, following the new ways, made for themselves a place in the crowded city, winning repute and financial success according to their ability. To-day the leading photographers in New York are getting from $15 for a dozen cabinets to $5 and $10 for a single print. What is the renaissance worth? Let every ambitious man paste the question in his hat until he has answered it.

I have spoken of this movement as though it originated and centred in New York, but it is not my intention to claim anything so foolish. As a matter-of-fact, it "broke out," as stars appear in the heavens after sundown, all over the country, for men everywhere had been thinking over the condition of the profession. Earnest photographers in all sections, who had for years given themselves up to making "the usual thing" at "the usual price," sickened of the monotony and rebelled. These men, known by their work, are the renascents.

It may be interesting to glance for a moment at the photographer of the renaissance and his equipment or environment. They are worthy of study. There is a higher tone about the men, and an atmosphere of higher culture about their places of business than we are accustomed to find in the old-style photographer and his surroundings. Their minds are intent on the realities of their work and the refinement of working methods, rather than busied with the mechanical clap trap of the stores. Their establishments exhibit simplicity and quiet elegance rather than the conglomeration of rubbish and taw-

dry ornament which has long marked the photographic studio. Their work is the embodiment of art-craft, revealing the cultured mind and trained hand turned to high ideals. Their prices force one to acknowledge their self-respect. It is all a matter of business, however, and not of art education or the pursuit of dreams. The renascents are simply well skilled in their craft, seeking business with the two-edged sword of thought and work.

And now we take up the final question: For whom is this renaissance, for a class or for all? It is a big question to answer in a few words, but I think the answer must be: "for all who have the will." Where there's a will there's a way. Photographic portraiture, as I look at it, is very much like all other professions in which men strive for success by public patronage. There must be progressives and degenerates. I give no place to the "middle-of-the-road" men, because I regard them as simply on "the fence," and bound to come down on one side or the other at the proper moment. A man must either force his way forward to meet the demands of the progressive portion of the public, or rest content to give the unprogressive majority what it seeks for the moment. The choice of ways depends upon the man himself.

SULPHITES AND THEIR USE.

BY G. E. BROWN.

AMONG the substances used for preventing the oxidation of the developer when in solution, and for preventing stain, sulphite in some form or another is the agent most generally employed at the present time. There are various forms in which sulphite can be bought. Besides sulphite of soda, there is metabisulphite of potassium, acid sulphite of soda, and sulphurous acid. In all these the active agent for preventing oxidation, with its accompaniment of stain, is the substance sulphurous anhydride or sulphur dioxide, a gas of the formula SO_2. The proportion of sulphur dioxide in any sample of sulphite determines its efficiency as a preservative. Crystallized sulphite of soda contains 27.4 per cent. of sulphur dioxide, and many commercial samples come up to this standard. On the other hand, many fall lamentably below it, mainly from two causes:

1. The sample has, by exposure to air during long storage, become oxidized—*i. e.*, converted into sulphate of soda, a body not only inert so far as preserving action, but also a restrainer of the developing powers of pyro. This deterioration in sulphite is rendered evident by the crystals losing their transparency and becoming crusted over with a dull, opaque powder. Before such a sample as this is used for any purpose, some of the crystals should be placed in a cup, a little water thrown over them, and the crystals swirled round and round by giving a rotatory motion to the cup. By this means the surface crust of sulphate is dissolved—a second dose of water may be necessary—and the clear, pure crystals of sulphite may remain. These are pressed between blotting-paper to dry, and the necessary amount then weighed out. Sulphite which has been kept some time should always receive this treatment. It is, of course, best to prevent this oxidation taking place, but even when well-stoppered the salt suffers deterioration, particularly if the bottle is frequently opened. The most efficient plan for obviating this is to fill a stoppered bottle nearly full with coarse crystals of the salt (not powder), and to then pour over them sulphuric ether in sufficient quantity to

cover the crystals. The ether will prevent access of air completely, and when the sulphite is required for use, all that is necessary is to take out a little with a spoon and lay it on a piece of paper for a minute or two. The ether, being very volatile, will very quickly evaporate, leaving the crystals dry. Care must be taken not to keep the bottle of ether in either a warm or a light place. Heat will evaporate the ether (or possibly burst the bottle) and light slowly decomposes ether, one product being hydrogen peroxide, a body which, in consequence of its powerful oxidizing properties, may cause the very evil which the ether is intended to prevent. Keep the bottle in a cool and dark place.

2. The sample may contain carbonate of soda. Most samples of sulphite are slightly alkaline in consequence of this impurity, instead of being quite neutral. It may be known when a sample is alkaline by adding to a little of the sample dissolved in water a solution of phenolphthalein dissolved in alcohol. A pink color is at once produced by an alkaline sample. When such alkaline sulphite is being used for making up developer, its solution should be made just acid before the developing agent is added. Citric is the best acid for this purpose, but hydrochloric or sulphuric may be used. The acid should be added in small quantities until a strip of blue litmus paper dipped into the solution is just turned red.

Metabisulphite of potassium contains, when pure, 57.7 per cent. of sulphur dioxide, and is, therefore, more than twice as efficient a preservative as sulphite of soda. It is an acid salt—*i. e.*, it neutralizes and destroys the developing power of alkalies like soda carbonate and ammonia. This neutralizing action of the metabisulphite must be taken into account when using it in a developer, since when it is employed a larger amount of alkali is needed. The quantity of the various alkalies neutralized by one part by weight of metabisulphite of potash is given below:

	Potassium Metabisulphite.
Ammonia (0.880)	0.45
Caustic Potash	0.50
Caustic Soda	0.36
Potass. Carbonate (dry)	0.62
Soda Carbonate (cryst.)	1.30

By means of these figures the necessary addition of alkali can always be made. Thus every 10 grains of metabisulphite in a developer will require 13 grains of crystallized carbonate of soda to counteract its acidity.

Acid sulphite of soda is not known in the solid state. Theoretically it should contain 65.5 per cent. of sulphur dioxide. What is sold in commerce as acid sulphite does not approach this. Some samples examined a year or two back by Mr. C. H. Bothamley contained 8, 34, 32, and 39 per cent. of sulphur dioxide respectively. Acid sulphite is too uncertain in composition to be recommended as a preservative.

Sulphurous acid—a solution of sulphur dioxide gas in water—is sometimes given in formulæ, though for what reason is not quite clear. A saturated solution contains about 20 per cent. of its weight of sulphur dioxide, so that it offers no advantage over sulphite of soda. Obviously the solution is very acid, and large quantities of extra alkali must be used to neutralize it. The solution cannot be bought everywhere, and though easily made in the laboratory, does not keep very well.

Those who use large quantities of sulphite may wish to test the consignment for its percentage of sulphur dioxide. Although numerous writers in the photographic press have given methods for doing this, the present writer is not aware that the most accurate and expeditious mode of accomplishing this has yet been laid before photographers. The best is that worked out by Giles and Shearer. Two standard solutions are required, prepared as directed

in text-books on quantitative analysis, or purchased from dealers in analytical apparatus. The first contains 12.7 grammes of iodine (dissolved in potassium iodide) per litre. The second contains 24.8 grammes of sodium thiosulphate per litre. A solution of starch is also required, and is made by rubbing 1 gramme of pure starch to a thinnish cream with cold water, pouring 150 c.c. of boiling water over it, and allowing the solution to stand. When a sediment has settled the clear liquid is decanted off for use. About 0.32 gramme of the sample to be tested is weighed out accurately on a small watch-glass. A measured volume of iodine solution is placed in a beaker without solution. The volume used should be very little more than will be used by the sulphite. For samples of soda sulphite take about 28 c.c., for metabisulphites about 59 c.c. The sample is shaken straight into the iodine solution, and the beaker shaken round, so as to dissolve the sulphite. Meanwhile a 50 c.c. burette is filled with the thiosulphate solution, which is then cautiously added, a few drops at a time, to the iodine solution. The reddish violet color gradually gives place to yellow, and when the solution is quite pale yellow a little starch solution is added. This strikes a deep blue color. Addition of thiosulphate solution is now continued drop by drop till the blue color is gone. A single drop is quite sufficient to change the liquid from deep blue to colorless—such is the delicacy of the reaction. Now see how many centimetres of thiosulphate solution have been used. Subtract this figure from the number of centimetres of iodine solution placed in beaker. Suppose the remainder is x centimetres. Then percentage of sulphur dioxide in sample =

$$\frac{x \times 0.0032 \times 100}{\text{Weight of sample taken.}}$$

If exactly 0.32 grammes of sample are weighed out for analysis the difference between the volume of iodine solution and the volume of thiosulphate gives the percentage of sulphurous acid at once. Although the preparation of the standard solutions used in the above test is rather beyond the powers of those not trained in analytical chemistry, yet the carrying out of the test as described above is so simple—and at the same time reliable—that any one may make it for himself.—*Amateur Photographer.*

NEWS AND NOTES.

COMPOUND FLASH POWDERS. It is strange that people will refuse to believe in the danger of working with compound flashlight mixtures until disastrous experience gives them an emphatic object lesson. Prof. W. K. Burton writes as follows to *Photography* of experiments not connected with this work: "My experiments were brought to an end by a flash powder accident, whereby my assistant had one of his thumbs blown off and was generally somewhat badly damaged. We were standing close together, but somehow I got off scot free, save that the sound of the explosion deafened me for several days. This is the second serious accident I have had with compound flash powder, and I will never use the stuff again. That used first was made by myself, that more recently came from America, and was guaranteed to be safe."

A similar "accident" was recently recorded in the Chicago papers, the flash powder, which was there the cause of considerable destruction being one extensively advertised as absolutely safe.

THE latest application of animated photography is interesting. It is to make a series of pictures of famous players in well-

known plays, such as Joseph Jefferson in "Rip Van Winkle," for exhibition in the form of animated photographs, accompanied by an explanation of the play, in the smaller towns not visited by the players themselves. Thus the settlers of the backwoods towns will, in due season, enjoy Bernhardt in her portrayal of Sardou's masterpieces, Francis Wilson in his side-splitting comedies, etc.

NOTES ON PORTRAITURE. Richard Penlake gives, in the *British Journal*, a few useful hints on portrait work which will benefit some of our readers. Among others things, he says:

The leading characteristic of portraiture is, of course, the likeness, and should present the individual character; but, as every subject is more or less defective in proportion, so the artist should first perceive where the individual variations of his subject lie, and treat them accordingly, not by obliterating the variations of lighting and posing, but by modifying them, ennobling the character portrayed, and refining the same.

Many operators depend upon development as a means of securing brilliant negatives; this, though in itself a good method, cannot be called a legitimate method. Brilliancy should be secured by a correct disposition of the light during sitting. Contrasts produce brilliancy, but they must be delicately managed, or the result will be very harsh. The happy medium depends chiefly upon the subordination of the half-tones to the high-lights. Children's pictures are best when well lighted, and in the majority of cases female heads will bear plenty of light; but men's heads are best treated broadly, with bold lights and fairly deep shadows, which suggest strength. Old people of both sexes require a large amount of diffused light to soften the bold marks of time. Hollows in the face are less visible when the light falls into them, but when the light falls across, one side of the depression is in shadow and the other side well lighted; hence the depression is well emphasized—*e. g.*, a full face with many wrinkles, hollow eye-sockets, heavy eyebrows; a side light throws up every wrinkle, and produces generally a hard result. This is very much reduced by a general and diffused light coming from the front; but, in such a case, great care must be taken to avoid flatness. Fat people, babies, etc., that are "all roundness" and show very few lines or hollows, become very flat with a front light, whilst a soft side light gives a certain amount of relief, and brings out the modelling.

ACETYLENE GAS FOR PORTRAITURE. The Camera Club of St. Catharine's, Ontario, Canada, has installed a studio equipped for portraiture with acetylene gas, and reports complete success with it. The illumination is derived from a bunch of thirty burners, each consuming one-half foot of gas per hour, and fitted to a movable construction, so that the light can be placed wherever desired. With a rapid portrait lens, fully-timed negatives may be obtained with two or three seconds' exposure.

A SAMPLE WAREHOUSE FOR AMERICAN GOODS in Caracas, Venzuela, is being established by the National Association of Manufacturers of the United States, with a view of extending American export trade to Central and South American countries. This enterprise is one which should be enthusiastically supported by American manufacturers of photographic apparatus and specialties. A detailed circular of information can be obtained from Thomas C. Search (President of the Association), 1751 N. Fourth Street, Philadelphia. The enterprise is not projected for the profit of the Association, the expenses attached being simply sufficient to render the movement self-sustaining.

AN EXAMPLE OF ARTISTIC PORTRAITURE BY STRAUSS.

THE NEW STUDIO OF J. C. STRAUSS.

In March last Mr. J. C. Strauss opened, at 3516 Franklin Avenue, St. Louis, a new studio, which, circumlocution and unctuous praise being put aside, must be pronounced a perfect model of its kind. Its completeness and elegance, as well as its appropriateness to its purpose, make it at once an ideal home of portrait photography in its highest development, worthy of the art-craft to which it is devoted, and an inspiration to all who follow photography as a profession.

The exterior of the place recalls the architectural style exhibited in the French chateau of the sixteenth century, adapted to the requirements of a modern photographic studio, and softened in exterior coloring by the substitution of varitinted Roman brick for the red-brick or stone of the chateau. The openings and corners of the building are carried up with stone quoins, lending the impression of solidity and strength to the outward appearance of the structure. Heavy timber-work superstructures encase leaded glass windows and mosaic panellings of interlaced design, which alternate in happy contrast and give an air of delicacy and refinement.

Exterior: Strauss' Studio.

One of these leaded windows is engraved to illustrate these notes, and shows the general design; the exquisite coloring must be supplied by imagination. The roof of the building is of red slate, and the studio is well set back from the street, to give space for carriage approach and effect. The public entrance is by a heavy oak door set in the tower which forms so striking a feature of the place. Entering, one finds one's self in a circular vestibule, of which an engraving is given. The floor and wainscoting of this room are mosaic work in rich patterns of green and red on a white field. The wall panels between the windows are covered with natural leather in which cartouche designs have been made with brass nails. The ceiling is of quartered oak, antique effect, and panelled between the massive beams. From this vestibule the visitor enters the grand reception-room, of which an engraving is given. The light here is subdued and mellowed by windows of stained glass; the walls decorated in restful colors; and a classic frieze adds its effectiveness to the whole, the subject of the mural decorations being the fine arts in allegory, painted by Paul Carnoyer. Needless to remark that photography is given a promi-

Leaded Window on Balcony, looking into Exhibition Gallery.

nent place among the fine arts portrayed. This room is furnished throughout in oak, and has an immense fireplace; the carvings are elaborate and in exquisite taste. The general effect is that so commonly experienced by the visitor to the great houses "of ye olden time" in European countries. At the right hand of the stairway is the public office of the studio, shown in detail in a separate engraving, with the counter where prints are displayed to the patrons of the place. The suggestiveness of this "corner" will commend it to photographers of refined taste as likely to encourage a higher appreciation of the photographer's work by the patron, than rooms where every inch of available space is occupied by a mass of work, good, bad, and indifferent.

The Oriental or Turkish-room, intended as a resting place for waiting patrons, is entered at the left of the reception-room. Here the general effect is one of richness of color and decoration, comfort and

Miniature-room in Tower.

Ladies' Dressing-room, in green tapestry.

Entrance to Studio: Vestibule in Tower.

luxury. The walls are decorated with Eastern curios; the furnishings include wide settees, rugs, and silken tapestries of characteristic design. The illumination of the room is provided by many vari-colored jewel lamps.

Leaving the Turkish-room and its prismatic splendor, one enters directly into a spacious exhibition gallery, shown in the engraving. This is a brilliant room, appropriately fitted according to the best ideas for the display of works of art. The floor is of mosaic work; the walls are draped with sage-green velour and embellished with selected examples of portraiture; the apartment is provided with a soft, cool light by means of a stained glass panel in the ceiling. In the centre of the room, on a pedestal, may be seen a copy in bronze of an allegorical figure of "Spring," exhibited at the Paris Salon last year by the sculptor Bringhurst. The room is a fitting setting for the exhibition of Mr. Strauss's work, notable for its strength and vitality combined with grace and delicacy of manner. In the pictures there displayed one realizes that portraiture, in its higher phases, rises above the merely mechanical operations of the camera, and derives its quality from the personality

1. Exhibition gallery viewed from door of Turkish-room.

2. Grand reception-room; stairway to balcony, and thence to operating-room, etc.

3. Reception Hall, in light green tapestry, leading to operating-room.

of the artist, as all true art must do. A few examples here engraved, selected from Mr. Strauss's display, show how completely this master of his art secures the life as well as the most graceful and characteristic presentment of his subjects.

The rest of the first floor of the building is given up to the workrooms of the studio. These are noteworthy for their roominess, completeness of equipment, abundant light, and the provision made for the comfort of the workers. An interesting sight in this department is the room wherein are stored upward of 100,000 negatives, representing Mr. Strauss's work during the past twenty years.

Returning to the reception-room, we note at the foot of the stairway a beautiful bronze statue of Diana, the huntress, which was presented to Mr. Strauss by his St. Louis friends at the opening exercises of the studio. We now ascend the stairs and reach the balcony overlooking the room just left. Here are displayed autograph portraits of hundreds of notable people who have been photographed by Mr. Strauss.

Everybody who is anybody is there, politicians, business men, bankers, artists, editors, society men, musicians, singers, lawyers, physicians, clergymen. The gallery is a collection of

1. Corner of ladies' dressing-room, in pink tapestry.

2. Corner of office, showing counter for display of photographs.

3. Private office of Mr. Strauss, in tower, adjoining operating-room.

Operating-room, west side; decorations in red velour.

faces of men who have by their qualities distinguished themselves above the common run of the people. They tell the beholder who are the patrons of Strauss, and are an eloquent chorus of testimony to his genius. The collection of pictures is in itself a history of the new St. Louis and of the characters that make and made that history.

There are portraits also of many famous in the great world who, visiting St. Louis, have paid their tribute to the skill which has made the Strauss studio known abroad as well as at home.

Off this gallery, to the north, is the miniature-room, cylindrical in form, finished in light wood and gilt. As its name indicates, this little room is devoted to the exhibition of miniatures exclusively, beautiful faces of beautiful women and children in rich settings. There is an old-world air about the place and its dainty furnishings that is a grateful relief after the more sombre tone of the large room. An engraving gives a glimpse of the place.

From the balcony we mount to the lounging and retiring-rooms, where sitters attire themselves awaiting their entrance to the studio. Two of these rooms are shown by engravings which indicate their general appearance. They are tastefully furnished with rich tapestries of light green and pink, carpeted and decorated in an appropriate way, and fitted with every requisite for their purpose. Similar rooms for gentlemen patrons are provided and fitted in

Operating-room, east side, showing entrance, at left, to Mr. Strauss's private office. Dark-room entrance at right hand side.

Portraits by Strauss.

a similar way, in keeping with their use. These retiring-rooms are entered from the general lounging-room which they surround. And now we turn into a small reception-hall, seen in the engraving, which leads to the operating-room, where the interest of our readers will naturally concentrate. The little ante-room is a gem in itself; but what shall we say to express our admiration of the magnificent room where Mr. Strauss presides at his camera? Our readers must judge for themselves. We have seen many of the most notable studios of the world, but can recall no one which can equal this grand workroom which Mr. Strauss has built for himself. It is superb, worthy of the man and his art. The ceiling and skylight are framed in graceful lines, and there is a superabundance of light for every purpose. The enormous room is finished in dark-red velour, which gives an atmospheric background into which harsh outlines fade imperceptibly and in a most pleasing way.

Portraits by Strauss.

The two engravings accompanying this notice enable one to get a fairly adequate idea of the place. In one we see a door which leads to the dark-room and printing-rooms. On the other side another door leads into the private office or "den" of Mr. Strauss. This little room in the tower we show in a separate engraving, with the master of the place at his desk. Here we sit down for awhile to reassemble in order the confused impressions gathered from our sight of so many combinations of beauty and artifice; to realize, also, the significance of the enterprise embodied by what we have seen, recalling its small beginnings and remarkable growth.

Portraits by Strauss.

It was our intention to have presented here a portrait of Mr. Strauss, made expressly for this MAGAZINE. The print, however, failed to reach us in time to be engraved, so we will add another interesting portrait, and present the combination in our next issue.

The photographic career of Mr. Strauss is one of unusual interest and encouragement for young photographers. As a boy of twelve he entered a tin-type gallery in Cleveland. He stuck at this inauspicious beginning for three years, and then migrated to St. Louis, where he worked for about the same number of years in galleries of minor importance. The year 1876 found him in Chicago, and the year following in St. Louis again. Here, twenty years ago, he made his first real start in the employment of a man named Tobias. This venture failed, and Mr. Strauss lost all his little savings. He then started again (1880) with Mr. Ed. Guerin as partner, and the receipts of the first day's business amounted to 25 cents. After a few weeks Guerin retired, and from that time until to-day Mr. Strauss has fought his way alone, with what success is seen in the establishment under notice. His progress has been the more remarkable when we recall the many clever photographers of his city in competition with whom he has won repute and fortune, Guerin, Scholten, Fox, Cramer, Seed, Rösch, Benecke, and others equally well-known. His personality strikes one as an admirable combination of the practical and the ideal. He has a keen appreciation of ends as distinguished from means, and his persistence in pursuing the ends seen has probably been one of the dominant factors in his success. His mind and methods show the possession of what may be termed art sense to an unusual degree; but, unless we err, this is the result of thought and work rather than an inherent gift. In this respect he is a living proof

that the artist in photography may be made as well as born, though this is in contradiction to the accepted theory. His work is distinguished by the quality of largeness (not size), boldness, and originality of conception and treatment. In his handling he seizes rather the nobler parts of his subject's personality than the whole, imparting the touch of art where nature is deficient. This we may see in the two full-page examples of his work which are given in our present number. Other features of his work are its brilliancy, solidity, and roundness; in his figure portraits we see the human figure rather than the dressed figure. Of his repute as a photographer of children we need not speak; child portraiture is not so much a business specialty with him as a branch of work wherein his capabilities find adequate means of expressing themselves to advantage.

Mr. Strauss is yet a young man, with his best years before him. What he has achieved in the past, amid innumerable difficulties, has been hardly won and richly deserved. Under the new conditions we look for still greater things and further growth. His popularity among his fellow workers in all parts of the country is as remarkable as his success in his profession, and it would be difficult to mention the name of a prominent photographer who was not present to offer his congratulations and good wishes at the opening of the new studio. Of that memorable occasion we have left ourselves small space wherein to speak. It took the form of a mock trial (quite appropriate to the humor of the St. Louis fraternity) of Mr. Strauss's sanity in erecting the wonderful studio we have tried to describe. His Honor Gustav Cramer was Chief Justice, and the Hon. J. C. Somerville, High Sheriff. Among the witnesses called by the writ, *subpœna duces tecum*, to testify at the trial were B. J. Falk and J. Falk (New York); Pirie MacDonald (Albany, N. Y.); C. S. Abbott (Jamestown, N. Y.); L. Prince (Cincinnati); Marceau (San Francisco); Bellsmith (Cincinnati); Place and Steffens; Schneider (Columbus); Stein (Milwaukee); Brush (Minneapolis); Root and Hetherington (Chicago), with many others. The court was held at the new studio, and the trial proceeded amid festivities smacking of the carnival rather than the court of justice. A satisfactory verdict was reached, which, stripped of legal verbiage, may here be appropriately recorded as follows: "J. C. Strauss: may his tribe increase."

OUR PICTURES.

A CONVENTION is a power. The closing of every convention sends a new stimulus into the mind of the fraternity. From the school at Celoron, from the meetings of the craft, and from the magnificent display of photography there made, hundreds of men have gone back to their studios with a new appreciation of their profession and their place in it. Higher ideals are abroad, and new resolutions thicker than around the historic New Year. To accomplish this end is the purpose of the conventions, to give fresh impulses, to make possible new beginnings of better things.

If this is true of the conventions, it is true of the photographer's journals. In so far as these fulfil their mission as educators, as sources of information, as repositories for the presentation of the life and work of the fraternity, they are perpetual conventions.

A glance over the current number of this MAGAZINE demonstrates the justice of the claim here made. In its pages our

readers will find a review of current events, papers on subjects of topical and practical interest, and examples of work which fairly set forth the best work of to-day in professional photography.

The interest of our illustrations concentrates on portraiture—the backbone of photography as a profession. We do not recall any previous number offering more or better material for the purpose of study than may be found in the pages of this issue. In the three principal illustrations we have full-, half-, and three-quarter length portraits, and in the smaller engravings there are other examples of the same branch of work. The engravings of the

De Vos & Hogue, South Bend, Ind.

STUDIES IN POSING.

interiors of the new Strauss studio make accessible to all the beauties of one of the leading studios of the world, an American studio, the outgrowth of one man's enterprise and feeling, and that man an American. In these things we may all take a just pride, and make them serve a useful purpose in our own development, as men and as photographers.

The frontispiece, "Dreams of Empire," from Mr. Strauss's studio, deserves careful study as a decidedly clever piece of work. It is luminous, it has breadth and softness, delicacy of definition combined with forceful contrast. The figure is admirably placed within its space, the lines are graceful, and the lighting well disposed to produce roundness and pictorial effect. The accessories are subordinated, and yet they fill their appropriate place, giving balance and support to the figure.

The "Example of Portraiture by Strauss," given as an inset, has many of the qualities above mentioned, but possesses the decorative quality essential to a picture of its class. As befits the subject, the manner has more of force and brilliancy, and the lines are bolder. In both pictures we see the reason of Mr. Strauss's enviable reputation in his city and in the craft. He is a master in his profession, whose career and work deserve the most cordial appreciation and following. The pictures, with those of the studio, also display the grand qualities of the Cramer plate when properly handled. Mr. Strauss uses this plate exclusively in his studio. The frontispiece has an added interest as another proof of the excellence of the Nepera Chemical Co.'s *Carbon Velox Paper*. This novelty should not be overlooked by our readers. Its usefulness may be gathered at a glance for many branches of professional work, and there is nothing on the market equal to it in simplicity of manipulation and beauty of results.

And now we turn to the five studies of a lady by De Vos & Hogue, of South Bend, Ind. We are sure that these will be as pleasing a surprise to our readers as they were to ourselves. Mr. De Vos has for some time sent out from his former studio, at Warsaw, Ind., a great deal of good portrait work, but we confess we did not look for such evidence of art-growth as these pictures show. The poses and lightings, as seen in the delicate originals from which our engravings were taken, are exquisitely managed; but the great charm of the pictures lies in their action, of which "Rosa-rosarum" is, perhaps, the best example. Only those who have attempted work of this kind can appreciate its difficulties. The artist had a charming subject, but it is gratifying to see how completely he has risen to the opportunity, and produced pictures worthy of comparison with the best of the year. We congratulate him on his success. These portraits were made on "Climax" plates and abundantly verify the oft-repeated claim that "Climax plates mean perfect negatives." We wish it had been possible to present to our readers original photographic prints of this subject, as they would have better exhibited the fine qualities of the negatives.

The engravings in this issue are from the reproduction works of the Albany Engraving Co., Albany, N. Y., and the Photo-Chromotype Engraving Company, of Philadelphia, both of whom deserve praise for the excellence of their work.

THE HUMOR OF IT.—A well-dressed, sensible-looking woman strolled into Roosevelt Hospital not long ago and asked if they had any "x-rays." "I've read a lot about them," she said before the astonished attendant could reply, "and how much good they are, so I just thought I'd like to try them. I haven't been well for some time now, and I've tried most everything else. Can you let me have a bottle of x-rays?"

APPLYING X-RAYS TO MINING. The *Sun* (N. Y.) reports as follows:

"LOS ANGELES, July 11.—To apply the x-rays to mining is a novel idea which has just been developed by Dr. F. E. Yoakum, of this city. He has fixed the x-rays upon a piece of quartz, whose exterior showed no indications of gold, and has imprinted upon a photographic plate the shadow of particles of the precious metal within.

"On June 30th the physician was photographing a tumor. There was a vacant space on the plate, and just for luck he placed there a bit of gold-bearing quartz. When the plate was developed there stood forth upon it the outlines of rock, with specks here and there showing the presence of gold. Since then he has taken a number of pictures of valuable ore. The x-rays pass through the quartz easily, but the gold stays their progress, so the ray photograph shows the presence of gold distinctly.

"It is not necessary to take a photograph. It is possible to hold ore in one's hand, and by looking through the screen toward the rock the shadow of the gold is visible. Dr. Yoakum believes this discovery will be of service to geologists and mineralogists in studying rocks. He thinks perhaps it will be possible to use x-rays in mining ore."

THE FALK STUDIO, of this city, like the famous new studios of Strauss, St. Louis, and Stein, of Milwaukee, is fitted with a single-slant light. This practical indorsement of the new idea in skylight construction by these three notable photographers is sure to have a powerful influence upon the studio building of the next few years. Referring to the single-slant light in his recently published book on *Artistic Lighting*, Mr. James Inglis says: "It has much to commend it. It is the simplest and cheapest to build, the least liable to get out of order, and will withstand the winter's snow and the summer's hail better than any other form. In portrait work it will give any result that can be secured by any other form (of construction), and many that can be got by it alone. So, after a long experience in operating-rooms, I most unhesitatingly cast my vote in favor of the single-slant light." Mr. Inglis advises a light starting about five feet from the floor (two feet would be better for full figure work), and extending to a point not higher than fourteen feet from the floor, with a width of ten feet. Ground-glass is recommended for glazing, and the curtains used should be absolutely opaque, arranged in pairs, working from top and bottom, overlapping about a foot when closed. The interior of the studio should be dark, to avoid the possibility of reflected light on the sitter. All lighting effects are obtained by direct light, and, therefore, a non-actinic color should be used for the walls. "My own preference," says Mr. Inglis, "is for a green, a grey-green, as being most agreeable to the eyes." It may be noted in passing, that Hollinger's studio has only one dark wall (maroon canvas cloth), the rest of the studio being colored in a cold buff tone.

THE PROGRAMME of the forthcoming meeting of the American Association for the Advancement of Science, Detroit, August 9th to 14th, contains the titles of many papers on subjects allied to photographic work of the higher branches. Among these (Section B, Physics), we notice papers on "Arc Spectra," by Prof. Foley, of the University of Indiana; "Experiments with the Acetylene-oxygen Standard of Light," by Dr. C. H. Sharp, of Cornell University; "The Discharge of Electrified Bodies by the X-rays," by Dr. C. D. Child, of Cornell University; and

one on "The Brightness of Pigmented Surfaces under Various Sources of Illumination," by Prof. Whitman, of Adelbert College, Cleveland, Ohio.

THE PHOTOGRAPHIC EXPORT TRADE OF GREAT BRITAIN, according to tables recently given in the *British Journal of Photography*, compiled from the customs entries, the photographic export trade of the United Kingdom amounted in January, 1896, to £11,832; in January, 1897, £8913. In February, 1896, £5850; in February, 1897, £8205. This would show that, as far as exports go, the photographic industries of Great Britain are in a flourishing condition. India is seen to be the largest of the colonial consumers. The United States do not appear at all on the list.

PHOTOGRAPHIC DECORATION OF WINDOWS. M. Ch. Gravier contributes an article on this subject to the *Amateur Photographie*, and, in dealing with the substitution process of vitrified photography, points out how silver, when vitrified, gives a yellow image, gold a red image, and platinum a blue or bluish image. Starting, then, with the silver image in a wet collodion film, one can vitrify the image as silver, gold, or platinum, as, by the well-known toning methods, the silver may be completely replaced by gold or platinum. If partial replacement is adopted, so that all three metals are present, a cold grey neutral tint may be obtained, while by allowing one or other of the metals to predominate, a wide variation becomes practicable. A curious process of vitrified photography is mentioned as employed in the workshops of MM. Lémal and Raquet. A negative collodion film is floated off its plate and fired on the red side of flashed ruby glass. The silver appears to reduce the cuprous oxide, and the result is an opaque stain—in fact, a negative image by transmitted light. By reflected light, however, the ruby surface looks black and the image light in colors; so a positive is seen by reflected light. M. Gravier also describes the dusting-on method as used in the workshops of Lémal and Raquet.

WANTED: AN EXPLANATION. An expert worker with bromide paper, who has probably had more practical experience with this form of sensitized material than any other man in the United States, confesses himself as puzzled by the following experience, and asks for a possible explanation. A large quantity of bromide paper was obtained for a special order, in a roll containing several hundred square feet. The proper exposure for the negative used was determined by experiment with a strip of paper taken from the roll. The whole of the paper was then correctly exposed, and a strip developed immediately showed perfect exposure. The balance of the exposed paper was stored away carefully for a week in a dry closet with other unexposed bromide paper. On development after this period, the prints refused to come up as expected, and showed distinct signs of under exposure.

A BLACK PRINT PROCESS. The Committee of Science and Arts of the Franklin Institute, Philadelphia, has recommended that the Scott Legacy Premium and Medal be awarded to Francis Leclere, Philadelphia, for a new "black print" process, described as follows: "The paper, sized, treated with the photogenic compound and dried, is exposed to the action of light under the design to be copied. The time required for exposure is short, as the paper is very sensitive. The exposed paper is then submitted successively to two liquids; the first, which acts as a mordant, and the second as a dye, which varies according to the color desired. The paper is floated

on this liquid and absorbs the coloring pigment in the lines and spaces, which had previously been shielded from the action of light. The superfluous dye is washed out and the design appears on the white background of the paper in the desired color."

The report commends highly the quality of the results obtained, and gives the inventor the credit for having demonstrated the utility of the process from the standpoint of economic production. The process is analogous to the well-known "blueprint" process, and gives a positive copy of a positive original, which latter must, of course, be transparent or translucent.

THE COLLINEAR LENS: NEW SERIES. Messrs. Voigtlander & Sons, the makers of the Collinear lenses, have introduced two new series which merit attention. Our description is abstracted from a report given in the *British Journal* of recent date. We presume that fuller particulars may be had from Messrs. B. French & Co., Boston, the American agents for Voigtlander lenses.

"Series II. This series is designed for hand-camera and instantaneous work. The aperture has accordingly been opened out to the fullest available extent, viz., *f*/5.6. We were surprised to find that a No. 2 of the series, of 4¾ inches equivalent focus, very well covered a half-plate, although of course the acme of definition was not obtained at the margins; by diaphragming down to *f*/8, however, the half-plate is well and easily covered. On the quarter-plate, at full aperture, the definition is exceedingly fine and crisp, the illumination even, the field flat, and the errors of spherical aberration and astigmatism not apparent. This lens should prove an excellent instrument where short exposures are essential, for it appears to have been corrected so as to reduce the aberrations to the minimum.

"Series IV. This lens is intended exclusively for work of a wide-angle character, where, of course, rapidity of exposure is not a desideratum. Its full aperture is *f*/11.3, and a No. 5 of 10¼ inches equivalent focus covers a 11 x 9 plate, thus embracing an angle of 75°. At *f*/32 a 12 x 10 plate is covered. The field of the lens is remarkably flat, and, as befits an objective of this character, its defining power is unexceptional. We could detect no astigmatism of the image. There is no doubt of the Series IV. proving an invaluable instrument for reproductions, copying architecture, and allied purposes. The Voigtlander lenses are noted for beauty of finish and purity of glass, and are well calculated to hold their own in the field of photographic optics."

THE NATIONAL CONVENTION AT CELORON.

THE Seventeenth Annual Convention of the Photographers' Association of America has come and gone. It was held at Celoron, on Lake Chautauqua, July 12th to 17th inclusive, under the able presidency of Clarence M. Hayes, of Detroit, Mich.

Briefly, the Convention was a success—a great success. The place of meeting was ideal for its purpose; there was plenty of room for all who attended, for meetings, the photographic school, the dealers' fine displays, and the photographic exhibition. The people of Jamestown, as hosts, did everything within their power to give the conventioners a royal welcome and a "good time." There were many social entertainments and a delightful excursion in which the whole Convention took part.

The attendance was, we believe, not quite as large as last year, and the exhibits of pictures were not as numerous as in 1896. But there was abundant enthusiasm, gener-

ous appreciation of the feast provided, mental and artistic, and the work displayed was decidedly in advance of that shown at any previous Convention. The trade department was more extensive and more interesting than in 1896, but the dealers generally complained of a noticeable lack of money among the photographers.

Many familiar faces were absent, among those who could not attend being J. Ed. Rösch, J. C. Strauss, S. L. Stein, Theodore Marceau, M. J. Steffens, F. G. Schumacher, and others. Among the prominent manufacturers and dealers present we observed G. Cramer, M. A. Seed, G. Murphy, W. H. Allen, L. F. Hammer, F. Hammer, C. O. Lovell, Messrs. Thomas Pattison and W. I. Scandlin, representing Messrs. E. & H. T. Anthony & Co., B. Pelgrift, representing the Scovill & Adams Co., M. G. Gennert, and a host of others.

The Convention was informally opened by a reception given by President Hayes and his brother officers of the Association, on Monday evening July 12th, at the Association headquarters at Greenhurst. Meetings of old and young photographers from far and near; music and dancing made the occasion an auspicious one. During the day the exhibits were arranged in the auditorium, and the last touches given at various points ready for the work of the Convention. The school of photography was located in the Briggs theatre, on the Celoron grounds; the pictures were displayed in the auditorium annex, and the business sessions were held in the new theatre recently built. Among the special delegations arriving during the day was one from Michigan, consisting of a party of thirty; the Philadelphia Chautauqua Club brought one hundred and fifty; the Chicago party numbered eighty; the Boston and New England delegation was fully fifty strong; and a very large party came from New York. On reading their morning paper (Monday), the visitors found in the *Jamestown Journal* a cordial greeting from the press and public of the city, with an enthusiastic appreciation of their craft.

TUESDAY, JULY 13TH.

The Convention was formally opened at 11 A.M., by President Hayes, who introduced to the crowded assembly in the new theatre, Mr. Porter Sheldon as a prominent business man of Jamestown. In a few words Mr. Sheldon welcomed the photographers, and President Hayes responded for the craft.

The speaker of the morning, Mr. Griffith, of the Detroit Museum of Art, then made his first address on "Art." The substance of his remarks are here given:

"Art is the embodiment of the senses, it is the higher feeling, it is the development of a temperament, it is the development of something that is better and nobler. The dividing line between the senses, let them be in the higher plane or in the lower, is very narrow, extremely narrow. We step from the lowest depths of despair and discouragement, from the dark clouds of the valley into the sunshine of encouragement and enlightenment, and the border line between these two lands is extremely narrow. Show me the man that is so wonderfully developed that he sees and feels the best things, and I will show you a man who is equally variable in his nature, so that he easily steps down into the lowest depths. It is simply this disposition that is within us that makes us what we are and enables us to appreciate the better things.

"The man who lives always in the shadow will appreciate more greatly the sunshine. If we had eternal sunshine we would grow weary in time. I have stood on the western plains when the sun came up every day a blazing ball, and the sky seemed never to have a cloud, and we grew so tired of this blue sky and glorious sunshine that we begged for a cloud that would come across

the sun and make diversity; then I have lived under a cloudy sky where it was so continually dull that we prayed for one rift in the cloud that would send a ray of glorious sunlight across the sky.

"We appreciate a picture according to the feeling. I am sometimes asked what makes good pictures; I do not believe the man lives who can tell you what makes a good picture, but there are fifty thousand who can tell you what makes a bad one. The man who looks at a picture and simply states that it is bad, and doesn't tell you why it is bad, is simply no critic at all; but the man who will step up to a picture and say that it is wrong, and tell you why it is wrong, causes your ears to prick up, and every sentence becomes alive with interest, simply because you feel (while you may not agree with him) that he knows what he is talking about. I sometimes think of a man who picks up a violin, he is a trained master, he picks up the bow and begins to play, and there comes forth a harmony which is delightful, the measure is perfect, and the harmony most wonderful, and you are pleased. Any of you who happen to have been so fortunate as to have heard Ole Bull, that *master* of the violin, felt that there was a man who put into that bow something of his own heart and soul, and when he began to play you closed your eyes, and felt he was not only sending forth beautiful harmony to you, but he was taking you over hills that he used to roam way back in far off Norway, and you heard the rippling of the brook and the splashing of the waterfall. By and by, when he had you fascinated, you found that the man raised his bow above his violin, and keeping up the motion, it was a full minute before you realized that he was not playing at all, but simply carrying you on by the magnetism of his genius. That is the difference between art and simple mechanical movement. One man paints a picture and puts into it his best drawing, and you look at it and say, 'yes, it is beautiful,' and pass on, the man has failed.

"What is that secret of the old masters? We hear men say, I would rather look at modern pictures, and so we would as a rule, because we understand them; but when you teach yourself to understand the spirit that was back of the master, when you teach yourself to understand the expressions, the spirit which he wished to give to you, then you can understand that out of his brush there grew something of the spirit and soul of the man, and that he is telling you a story, and that story is a plain one to all nations, because it is plain to all languages, because there is a spirit of man, there is something back of it that expresses to you the story.

"What is this which we hear said to-day, that photography is a mechanical art? Go over and look through those pictures, and then ask me if photography is mechanical. What marvellous strides have been made in the last two or three years, since men first began to understand that the camera was only a means to an end, which, if you learn to study and master, you can accomplish and make it do what you want to. The great difficulty with us is that we show too much, the eye of the camera will disclose to the human eye that which it cannot see. It is simply because it is so intense and magnifies. True photography is based, not simply on things as they seem, but in teaching us to see things as they appeal to the human mind.

"There is a tree down by this lakeshore, and each leaf of it is mechanically perfect. He who runs this universe is able to accomplish that, but no human man could do it; now the amateur sits down and laboriously copies that picture or that tree without putting one thought or one minute of soul into it; simply like the Japanese or the Chinese, he servilely copies it detail for detail. You remember the story of the man who took a pair of pantaloons to

a Chinaman to make a pair of pants from, and, unintentionally, he took a patched pair; the Chinaman made the pants and he also made the patches, detail for detail. That is the way a great many artists work. The man of thought, the man of genius, will walk down to that shore and study that tree in all the changing lights; he will see that every breath of wind changes the contour of the tree, and he says to himself, 'Now I will catch the character of it.' He studies it until, with a few rapid touches, he has got the tree with all the changes of atmosphere in it and all the changes of light. That man has got the *character* of it, just as you know the walk of your friend in the outer corridors—he has a certain step, and you have got the character of it. I understand that there is bread and butter in all this, unfortunately of the earth earthy, but we have to have it; and I understand that you cannot spend hours over each portrait, but every now and then there comes into every man's gallery a face that he understands, and says to himself, there is my ideal, there is a model which I can use and make something of.

"The most famous portrait-makers of the world are the idealists who yet stay so far away from art that they catch the real. I notice in an art school if a model is put before them, and he has an unusually developed nose, that they see that nose and give it an added development, because it intrudes upon them; now, the true artist will catch the character of that nose, but will idealize it so it does not intrude upon you. Why should the poet, the dramatist, go to the classics for his models! Simply because Homer is the ideal; he lays before them such marvellous beauties in such a simple manner that they discover they cannot go beyond that. The sculptor goes back to the Elgin marbles to secure the best types, because they are the ideals of character sculptured—men dreamed and gave ideals to their dream. Why not go to Rembrandt, the master of the old artists? If you study their ideals and see what made their pictures great and keeps them so through all these hundreds of years, you will understand what made them make a great portrait. It is said that Rembrandt spent his boyhood hours in his father's old mill; he noticed as the workmen passed back and forth the face sparkle, and he caught that and made that his model, and his pictures have lived through all time, and yet they were not of handsome models. His own face is not handsome; it is a Dutch face. No one painted his mother oftener, and yet she was a plain old German woman; but he put into the portrait the womanliness, the spirit he caught back of it, seeing that, the face caught sunshine, and all else fell away. Now, he could happily translate that sunshine to you, and at the same time keep his shadows, clean, clear, and transparent. The study of these things will make better workmen. Most photographers are glad to take Rembrandt as their model, and certainly there could be no grander model. Reubens knew how to make it appear as if there were blood under the skin, and yet he forgot that white was whiter by the side of black. Did you ever realize that the man never lived who could paint color too intense?

"Last night as I came up on the boat there was a brilliant cloud over the lake, and back of that was the sun glowing, and on the nearby shore a tree of the most vivid green. Have we any colors that could paint these? Then why do we aver any coloring is too high? Simply because it is put on with the skill of an Indian. They paint that green tree, and they forget to put other things in harmony with it, and the green tree sticks out at you like some of the shirt collars and cuffs in some of the pictures over there. I realize that my cuff is much whiter than my skin, but in these pictures the collar comes out at you as if it would strike you with a club.

De Vos & Hogue *South Bend, Ind.*

ROSA-ROSARUM

Now we subdue our colors simply because, if I put white in this room, I will take out my handkerchief—and that is as white as any paint I can get; I put it out in the sunshine, and it is a thousand times whiter. Now the Almighty can do that, but I can't; I have simply got white; I can't get it whiter. Burgmuller painted white horses, and he understood that if a white horse passes in the shadow of a tree it is lower in tone; if it comes out it is higher. He understood that. All portraiture is composition. In making a composition there should be some one point toward which the eye is attracted. I have always wanted to be a girl, so that I could wear a red ribbon around my neck, and yet I wouldn't wear one for a thousand dollars. I am afraid of it, but I admire it in anyone that can wear it; but you want to hold it and keep it down.

"A nude picture drawn in a school simply for a mechanical training is no picture at all; it must have been done by the student that he may become familiar with the human anatomy and with the human figure. If you show me a nude figure that expresses a story, it is simply clothed in that story.

"Some time ago I wanted a model. I inserted an advertisement in a paper. An old Irish lady saw it and came in with her boy. A modest, quiet old Irish woman; she said: 'Sir, I saw your advertisement in the paper; Will my boy do?' Well, with all due respect to the old Irish woman, the boy was the last we wanted; he was crude and awkward. I said: 'Do you know what we want with him? Well, we put him on a pedestal nude, and there are a dozen or more pupils about him, and they draw from him something like this.' I took a nude picture out of a portfolio and set it up. She looked at the picture, then she looked at the boy, and then she looked at me, and said: 'Teddy, if I see ye making a spectacle out of yourself like that I'll beat the divil out of ye,' and then she turned and looked at me and said: 'Sir, he will be no dude.' I understood then why she looked so blankly at me when I said the word 'nude.' All the preaching in the world would not disabuse that woman of the idea of nakedness. You might put before her the most beautiful creation in marble, and she would see simply that it was nude; but this is all the education of environment, it is the result of misunderstanding. A Greek boy with his shalma rolled about him and his sandals on, will talk to the finest audience, and yet when the call comes for the start in the race he throws aside his shalma, and, with nothing but his sandals on, starts out to win. The climate is warm, and everything about him expresses nature, and that is why they are such marvels. Did you ever stop to think that modesty was simply a matter of education. What we consider modesty in one country is not in another.

"I have walked through the Sandwich Islands, and with a gentleman met a woman coming to the spring with one garment, and with that one garment she hid her face. It would not have been modest for us to see her face, and yet I say that that woman was just as modest as any woman in the United States. In France, a country noted for its immorality, a woman of the worst sort would hesitate to appear in the streets in any such condition as I have seen them in the Guildhall; and there is only a narrow channel between them. Now, when we learn to see these things for their beauty, when we learn to look upon them as the most wonderful creations of God, you may, if you wish, use a nude figure; use it, but first be sure that you have a sentiment and a story to tell, and then your photograph ceases to be nude and becomes an object of beauty and admiration, and then, too, do not let the figure intrude.

"Did you look at that picture of Queen Louise? How marvellously the sunlight

falls down upon her face and how wonderfully the lower part is kept in harmony. You would in nowise associate any thought other than that of the highest in connection with such a marvellous figure. Give five minutes of thought to one minute of work. The sun and the camera are but your workers; use them judiciously and with education and thought, and there is no limit to what photography may do.

"You say we cannot accomplish color; perhaps you may. But did you ever look at an engraving or drawing and see color in it? You can. Some photographs over there are so true to nature that they suggest color to you. You can see color in them, and when you have beautiful color you can see the absence of color in them. I have talked half an hour. I think you are tired. I thank you. (Prolonged applause.)

"I believe the only compliment I ever got in my life was I didn't talk long enough; they say that sometimes at Detroit, and I have talked forty-eight times in the last winter. My thoughts are simply the inspiration of the moment. I have sometimes wished I could arrange my thoughts in pigeon-holes, and then when I wanted them reach for them; but I find that when I begin to talk it is more like a badly packed trunk, and I have to go digging through a great mass of material to find what we want. We many times hear men say: 'I dashed that picture off in half an hour;' but the greatest success in this world is the result of hours of study of a man who will go and look and study again and again. You will find that before he has touched the brush to the canvas he has spent hours and days of labor. I knew a gentleman who illustrated Grey's 'Elegy in a Country Churchyard'—and, by the way, you have probably heard that Grey's 'Elegy' was written in one evening; well, it was; but he told a friend he had labored over it ten years. Well, this man would take a canvas and stand it before him this way, and look at it for days, and then turn it and look at it in another light; then, when the thoughts came to him and he had all the thoughts thought out, he grasped his brush, and in half an hour dashed out something that was simply marvellous. It was the work of days and weeks before. They tell me that I talk without notes. Do you not suppose that all the way across the lake last night, and all the way from Detroit, I wasn't making notes? The man who tells you 'I did that in a few minutes' is simply a fake. He is striving for effect, and if he secures it, it is an accident; and accidents are few and far between that are successes, so that when you start out with any labor, even the most simple thing, understand that every part of it will require several thoughts. I suggested to the convention two years ago the ideal photograph gallery. (Mr. President, I believe I talk again on Thursday. I will keep some things back.) I have an ideal photographic scheme; it is to build a central studio, in which there is every ability to call forth all the desires of every man or woman. There are around that working studios opening into this central studio. The attendant will meet you at the door and say: 'Well, the proprietor is very busy, amuse yourself a little, and then he will attend to your wants.' You go in; there lies a violin; by and by you see some music beside it, and then you begin to play; you become rapt up in what you are doing. The attendant comes in and states to you: 'Call to-morrow and see the proof;' the man has caught you, but he has caught you unaware, when the feeling was coming out of your face. You sometimes say a picture does not look like a photograph. What is it? The artist has made you stand in a position entirely foreign to your make-up, your natural self crept out, and the man that appears to the world has crept in. We all live two lives. If the best man in this house had his inner

life written up here he would walk down the street with his hat over his eyes. It is this outside life that you wish to give to the people. It is the inside life that your friends want and appreciate. The most stubborn and ungrateful of all human characters unbends and softens in the presence of his friends and family, and it is that unbending that we wish to secure—that the photographer must secure. We sometimes see a portrait, and we say that is brutally like the man. You don't want the brute part; you want the ideal; and when you strive for and secure that, then you have made perfection of photography. It is within your grasp. I thank you. (Applause.)

A hearty vote of thanks was given to Mr. Griffiths for his instructive lecture. Some discussion then ensued concerning the division of interest caused by the three sections of the Convention being open simultaneously. This familiar trouble was at once summarily dealt with, and a resolution carried that the manufacturers and dealers' section be closed while the business sessions were being held.

The report of the Treasurer for 1896 was then read and adopted. It showed a balance of $1171.59 in the treasury.

Telegrams were then read from Mrs. Cramer and others, expressing regret at unavoidable absence and wishing the Convention every success. An interesting letter from Messrs. E. & H. T. Anthony & Co., New York, was read, as follows:

"NEW YORK, July 12, 1897.

"TO THE PHOTOGRAPHERS' ASSOCIATION OF AMERICA: In regard to the radiotint materials so recently advertised by us, we regret to say that a large consignment of photographs colored by the Chassagne method, which Mr. Chassagne promised to send us for exhibition at the P. A. of A. Convention has not yet been received, nor have we received any of the liquids, except in experimental quantities, as we did not wish to order a quantity shipped until we were sure that the agitation of the liquids by the ocean voyage would not affect their quality. Two different sample lots of these liquids were received by us, and we were unable to obtain satisfactory results with them, and, therefore, cabled to have one of Mr. Chassagne's demonstrators come over and see whether the trouble lay with us or with the liquids. This demonstrator has arrived, but has been unable so far to produce satisfactory results. Just why this is, it is impossible to state as yet. Consequently there will be no demonstration of the process at this Convention. As soon as satisfactory results can be obtained on this side of the water due announcement of same will be sent to those interested. We wish to assure the fraternity that we certainly shall not make any delivery of these liquids until we are convinced beyond a doubt that they are as represented to be.

"Very truly yours,

"E. & H. T. ANTHONY & CO."

By this time noon had arrived, and the meeting was adjourned until the following morning.

The School of Photography held its first session at 2 P.M., Tuesday. Mr. Pirie MacDonald, of Albany, gave a suggestive address on "The Necessity of Training Schools for Photographers." This paper we hope to present as soon as the official report shall have been received. Mr. MacDonald gave a practical demonstration of his method of working under the skylight, and afterward Mr. James Inglis illustrated the principles of Rembrandt lighting. Mr. E. S. Barker, who is associated with Mr. A. N. Camp, of Jamestown, presided at the camera and attended to the development of negatives. This session was enthusiastically shared by all the photographers at Celoron, and satisfaction was expressed by all at the practical help given by those who gave demonstrations. In the evening a large body of conventioners attended the theatrical entertainment given at the Celoron theatre by the dealers, and a most enjoyable time resulted.

Wednesday, July 14th.

The morning session was called to order at 10.30, with a full attendance, the dealers' section being closed while the judges

examined the photographs displayed in the annex. The first business of the session was the annual address of President Hayes, given in part, as follows:

"It is alike the privilege and duty of the presiding officer, at a time like this, to make a tracing, however rude it may be, of the lessons of the past, and from them draw conclusions for the future. It has been the privilege of my predecessors in office to point out the marvellous strides toward prosperity and the individual march of certain ones to phenomenal success. I would that I could do so now; but alas, such is not in my power, yet with the low ebb of the trade photographic at present we may still draw some lessons. A wise man has summed up in brief the fact that economy is the enemy of prosperity; but another, equally wise, has told us that inflation is the nemesis of financial success, and in the ebb-tide that follows comes the reaction of the flood-tide of the other.

"Any data based on fiction must sooner or later bring a conclusion as false as the premise, and I would be remiss in my duty did I not, in this brief summing up, hold fast to truth undeniable, however unpleasant it may be. We must concede that while there have been some few isolated cases of unusual business prosperity among our craftsmen during the twelve months that have rolled by, yet prosperity has not been so great that we have been forced to get out sunshades and fans to keep us from being overcome by its fierce rays. It is but melancholy satisfaction at best to know that we have all suffered alike in this regard, and yet there is satisfaction to be gathered from the fact that while we have been with the rest of the world in our business depression, yet we have not gone backward; not only that, but have gone steadily forward in our art, as I think the most skeptical will be convinced in the most cursory view of the exhibition in the annex. What the merest passing glance at that exhibit will show is but accentuated and more than doubled by a closer and broader view, as I think you will all agree.

"Rising above the more sordid view of our profession, I would call your attention to the thought that we are showing progress as a direct result of these conventions. The miser's view of the world is to get what you can and keep what you get; but what a narrow view is this. In such a view there would never be a convention, never a place for the Photographers' Association of America, and I would not be here now. We are bound together under that better motto of give what you get, and by that same giving get more; for in the free exchange of ideas comes the acquirement of knowledge as well as the giving of it. It is not given to any one mind to comprehend the full details of any one thing, but in many minds and the free interchange of expressions come the myriad-minded expression that reaches the highest apex that we can get in any line.

"Let us then take a brief retrospective view of what we have done the past year, and I am glad to say that there have been no radical changes, no startling departures. I am glad of this, from the fact that it proves to me that we are getting close to the exact science of our art. It is in new and untried fields that startling departures are found; in the undiscovered avenues of trade that radical departures are made, but not in the well developed and thoroughly explored trades. We have made haste slowly, but in that very increase, which is as certain as day, we have shown that steady progression that every one recognizes in the art display.

"It is much more pleasant to commend than to criticise, and much more productive of good feeling, but it is by criticism that we improve. The fault of to day, when clearly seen, but shows the way and is the pointing finger to the path for improvement to-morrow.

"The general proposition is that this Association can be successful only so long as it has sufficient members to make it strong, and it can only hold those members so long as it shows to each a reason for the retention of membership, with the attendant expense. The cost of operating such an organization is great, and we must keep the standard of profit to members at such a plane as will make the majority, in fact, all, anxious to keep their membership by adding new features.

"To do this is no light task, for, with all the antiquity of the adage that there is nothing new under the sun, there is no truth more modern that is more true, and it will require, as it does now, the greatest effort on the part of the five chief executive officers to find new expressions of the old thought to interest our members. For the idea that it is our duty to our art to keep alive such an Association, I have but the most open contempt. The word duty, to the ordinary mind, brings the thought of something unpleasant, and unpleasant things are the last one desires to con ider. No, my friends, it is the merest claptrap to talk of duty bringing us together on these annual meetings, and as soon as we lose sight of the individual benefit to be derived from such conventions we lay the foundation of flaws that will wreck this Association or any other.

This is a very practical and very material world in which we live to-day, and however much we may regret the fact, it is nevertheless true that as soon as you show a lack of benefit from a membership you provide a very satisfactory reason for a relinquishment of such membership, and that means a more or less speedy dissolution.

"It is all very well to talk about keeping out the manufacturers and the exaltation of the artist's side of the question, but no Association of the scope of ours can be held together without the support of a financial nature that we obtain from the manufacturer, and utilitarianism is as necessary to our success as members of this Association as real art. We cannot hope to hold their support beyond the time we can show that it is of real benefit for them to join issues with us. The manufacturer will continue to contribute only so long as he can see the benefit of so doing, and while many may talk broadly of devotion, it is my experience that the question will drift down to a question of dollars and cents, the real rock-bottom of all financial transactions.

"There were two questions decided at our last annual meeting to which I would invite your consideration at this time. First was the basis to undertake the expense, and I believe all will agree with me that such a move is useless unless we can in some measure provide that each secretary shall be furnished with the proper materials of his office; the providing of office expenses in the way of postage and stationery. You will need no pencils to figure out the result of trying to do it when we have but eleven hundred dollars in the treasury, from which we must pay the expenses of our annual meetings. What would be left for the State secretaries is only represented by a minus sign.

"As far as stenographic reports of our meetings are concerned, I would be most heartily in favor of them, if such a plan was within the scope of our financial abilities. There is necessarily much of a dry and uninteresting nature in any annual meeting, and while every man is prone to delight in seeing his remarks in the official proceedings, I ask if it is wise to incur this expense. Our excellent trade journals are quick to perceive that which is of general interest to us all in these meetings, and are extensive in their reports, so much so that I deem it wise to recommend that the full reports be omitted until such time as the Association can better stand the expense.

"The competitive features of our exhibits seem to me of the greatest good. Each member sees the progress of the others, and in that view derives new ideas, which enable him to better cope with his competitors. New poses, new lighting, new methods, new accessories, and new generalities, spur him on to new departures, and in the very stimulation he is benefited, and from a financial standpoint derives profit.

"I have watched with keen interest each year's improvements in our exhibits, and have taken much satisfaction therefrom in the national Association, but could you have watched with me the vast improvements shown in the Michigan exhibits each year you would have been as surprised and charmed as I have been. Starting with the first exhibit, which could not by the greatest stretch of the imagination be called creditable, I have seen that grow until our last meeting, when the display was of the most meritorious kind, and I am free to state that I doubt if ever a better State exhibit was shown. I think that in this statement brother Bellsmith and brother Todd will fully bear me out.

"In this connection I want to advise a little more freedom in expression, for I fear there is too much reserve, too much holding back through modesty. There is none so exalted that cannot derive benefit from the most retiring. Be free in expression, open in advice, and whatever ideas you may have to advance, do so with the full knowledge that you are conferring benefit on your fellow members. Remember that as John Russell Lowell says: 'The same thought, though often expressed, is his at last who says it best.' And in your very expressions of some old ideas you may give it new meaning, and not only benefit others but yourself as well, for no man can confer a benefit on others without the reflected sunshine of such benefit brightens his own life. There is nothing more true than this: in your explorations you may open a field of discovery that, like bread on the waters, will return to you an hundred fold.

"On the question of a permanent home for the Association, I would recommend that we 'make haste slowly,' and not act until the most mature deliberation will show the best way.

"On the question of giving medals for superiority in work, I have very decided ideas. It is a question in my mind if the richest medal that could be wrought of purest gold, studded with the purest diamonds from the fields of Brazil, would convey more of merit than a simple ribbon with the insignia of 'first prize' to the minds of the ordinary customer. It is not the intrinsic worth of the insignia, as much as the simple fact, that draws the attention of the waiting world.

"The amalgamation of the State and national

societies also demands serious consideration, and it is well to think deeply before we decide upon this. The question of expense and benefit should be carefully considered, and I must admit that I have as yet not been able to reach a convincing stage in this matter. There are so many things to be considered and carefully weighed, that I would rather trust to a majority of interest than insist on any opinion that I might advance under the hurried consideration that I have been able to give to the subject. A general proposition, to which I would invite your attention, is that it is better to cling to the things which we know have proved efficacious, rather than to fly to untried plans that may mean failure."

Mr. George G. Rockwood, of New York, followed with a talk on "Odds and Ends," "The Use of Lenses," "Single Slant-lights," "Have the Public any Rights which Photographers Should Respect," and "Photography Up to Date," giving about five minutes to each topic. The point of the last head was that a liberal policy toward the customer is generosity to one's self. Mr. Rockwood said:

"LADIES AND GENTLEMEN: I was asked by so many people to talk to you about so many different subjects, that I said I would discuss 'Odds and Ends.' Charlie Hetherington wanted me to talk about lenses, another gentleman wanted the latest thing in photography, others information about the slant-light; more about how to treat the customer. Perhaps the latter is the most important thing I have to say to you this morning. You know it has been the custom of some photographers to fire a plate at their customers and then fire them out of the front door. I have never believed that was a good plan. There is a good deal more of art knowledge on the part of the public than we have given it credit for. I say 'we,' for I have tried to avoid that rock myself. There never was a greater mistake made on earth. I never refuse to take an extra negative when anyone asks me for it. However, if a lady has come in one dress and wants to be taken in another waist, I am very sure to pose her so different from what she was that she will be obliged to take both in order to get what she wants.

"I adopted the plan a good many years ago of considering that perhaps the public knew what they did want, and the question of how to get my money never was an obscure one to me. I felt that if I treated the public generously, they would treat me so. By this method I have steadily advanced my prices from an average of a little less than $6 per dozen to $12 and $35.

"Concerning the use of lenses: in this matter the subject was suggested by a mere thought; I had standing in front of me a picture 10 x 12 in the exhibition here, which showed very plainly to me that the picture had been made with a 3B Dallmeyer or lens of that capacity. The point is, that with a short focus lens, intended for cabinet size at the most, they had made this 10 x 12. We speak of it as 'straining' the lens. It does not strain the lens, but it does strain the subject. The rule is never to use a small lens for a large head, but you can use to advantage a large lens for a small head."

Question from member of audience: "Can't you also go to the other extreme, using a large lens for small work?"

By Mr. Rockwood: "I never met with that difficulty"

Here followed a series of questions from the audience, and answers by Mr. Rockwood, who closed this subject by showing how to double the capacity of a lens by the use of one lens of a combination which doubled the capacity of the lens and the size of the image, notable examples of which were some life-size heads made with the front lens alone of a 3A Dallmeyer.

"I have been asked by a great many to say a word about the single slant-light, which is treated as if it was a new idea. It is not. We all use practically a single slant-light, as I will demonstrate to you. I used one twenty-five or thirty years ago.

"There (pointing to a sketch on the blackboard) is a general condition of our modern skylight. When you go under the skylight you pull the top curtain down half way and then raise the side shades. What have you? Practically a single slant, only it is obstructed by this confounded beam, which almost everyone is compelled to have to support the upper part of the skylight. That is the effect and capacity of the single slant, what you are trying to get all the time, but you can't do it on account of this beam in the angle, which is in almost every skylight. (See page 227, May number.—ED. W. P. M.)

"The latest thing in photography is bas-relief photography in its very best sense, *i. e.*, the creation of relief in pictures by photography alone. Some ten or fifteen years ago I had the idea that I could do it. I tried and succeeded, but I have

been so busy trying to get my bread and butter that I did not give up any time in that direction. Mr. Baynes, of Stamford. Conn., has perfected the process. (Holds up a case.) In this case is a dollar, simply to show the relief on our national coin, and here is a plaster cast of a bas relief portrait made entirely by photography. It will be interesting to you to know that this is being done now commercially. All sorts of decoration can be done from designs in black and white in the flat.

"Anything that you can draw in black and white we will be able to reproduce in relief. Nothing can be made so delicate but that the photographic process will copy. Medals, medallions, and things of that kind will all be done by photography.

"At the next convention, if I am alive, I want to bring you some fine specimens of it, and, if possible, make for the Convention the official emblem of photography, and I shall strive to do that."

Mr. Rockwood's address was followed by a short talk on the school of photography by Mr. Pirie MacDonald, touching particularly upon the school of photography which the American Aristotype Company is conducting in connection with the Convention, but at the company's own expense. He thought that the time had come for the Association to relieve the company of this burden; that it was of real benefit and one of the drawing cards in the bringing of the large assemblage together. He felt that the Aristotype Company had done its share in establishing the school when the Association was financially unable to do so; but that was now past, and the Association could well afford to carry on the work, making it a school for intermediate and primary classes in photography.

At Mr. MacDonald's suggestion a resolution was introduced providing that the matter of deciding where the next Convention should be held be taken up at the Thursday morning session. He spoke of the many advantages which Celoron afforded for the holding of the Conventions of the Association, and the applause which greeted the statement indicated that the choice would again fall upon this place.

In the afternoon the School of Photography was resumed, Mr. Percy King, of New York, and Mr. John Schneider, of Columbus, O., demonstrating their studio methods, with detailed instruction concerning the obtaining of effects, etc. As before, the school attracted the chief interest of the day.

Thursday, July 15th.

The business session, called to order at 11 A.M., was short on account of the festivities of the day (Jamestown Day) which were to follow. After some discussion Celoron was chosen unanimously as the location of the 1898 convention.

Mr. Griffiths then gave his second lecture before a crowded house. The address, of which no report is yet to hand, consisted of constructive criticisms of pictures chosen from the general display, and was listened to with intense interest. Mr. Griffiths dealt his criticism in an impartial way, and his condemnation of bad points brought out as much applause as was given to his praise of the good features of the pictures spoken of.

Mr. Charles Hetherington then addressed the Convention on general manipulation, after which the session adjourned.

The Jamestown-Day entertainments followed, provided by the residents of Jamestown, and occupied the balance of the day. In the afternoon steamers conveyed the conventioners to various points on Lake Chautauqua, games and sports were followed with zest at Long Point, where the excursionists disembarked. At 5.30 P.M. the boats, with their living freight, returned to the home landing, the photographers cheering heartily as they broke into groups and scattered.

In the evening all gathered again with their Jamestown friends to witness the per-

formance of a vaudeville entertainment at Allen's Opera House.

In his speech, Judge Fisher, the President of the Jamestown Entertainment Committee, won the hearts of the guests by his handsome and deserved compliments, and his mention of Charles S. Abbott, of the American Aristotype Co., was loudly cheered.

It was a sympathetic and well-pleased audience. Every number was applauded to the echo. After one of the numbers the photographers gave three cheers and a tiger for Jamestown. It was a happy and memorable occasion.

Friday, July 16th.

After the business session had been called to order the election of officers was proceeded with, and resulted as follows. Officers of the P. A. of A. for 1897–98:

President, J. Will Kellmer, Hazleton, Pa.

First Vice-President, Fritz W. Guerin, St. Louis.

Second Vice-President, G. H. Van Norman, Springfield, Mass.

Secretary, George B. Sperry, Toledo, O.

Treasurer, George W. Varney, Chicago.

The only contest was in the election of second vice-president, the other officers being chosen unaminously on recommendation of the nominating committee. For this office F. R. Barrows, of Fort Wayne, President of the Indiana State Association was also nominated, a ballot resulting in 97 votes for Mr. Van Norman and 84 for Mr. Barrows.

Mr. R. P. Bellsmith, of Cincinnati, then gave a short address on the advantages of the Associations to the craft, the stimulation of practical debate at the meetings, and the closing of photographic studios on Sundays. This was followed by a third lecture on art by Mr. Griffiths, which we hope to present later. The meeting then adjourned.

In the afternoon work was resumed at the school with a full attendance, Mr. Charles Hetherington giving one of his brilliant and witty talks on lighting, and answering the various questions put to him by those present. He was followed by Mr. Fritz Guerin, of St. Louis, who, to the delight of all, practically demonstrated his methods of flashlight portraiture and genre work.

The evening was devoted to merry-making, a grand ball given at the Hotel Waldmere by the demonstrators being the principal centre of interest and attraction. Over 500 conventioners attended the enjoyable event; the Waldmere and its grounds being beautifully decorated and illuminated by electric lights. The grand march of the evening was at 10 o'clock, led by Mr. Sidney Wells and Mrs. Cramer, of St. Louis, over a hundred couples participating. A fine musical programme was provided, and refreshments were served in the adjoining dining-room. The festivities ended shortly after midnight.

Saturday, July 17th.

The interest of the Convention was renewed and concentrated at the morning session of Saturday, when the names of the prize winners were announced. The list was as follows:

The Grand Portrait Prize (Life Membership in the P. A. of A. handsomely engrossed and signed by the officers): J. Ed. Rösch.

Grand Genre Prize. A handsome silver punch bowl and ladle, the Baker Art Gallery, Columbus, Ohio.

Eastern Division.

Genre Class. Gold medal, W. H. Otto, Buffalo, N. Y.

Class A. Twelve pictures, three to be 16 inches or larger. Gold medal, Dudley Buck, Rochester. Silver medal, A. N. Camp, Jamestown. Bronze medal, J. G.

Nussbaumer, Buffalo. Diploma, H. Shervee, Worcester, Mass.

Class B. Four pictures, 13 inches or larger. Silver medal, J. B. Schriever, Emporium, Pa. Bronze medal, E. C. Smith, Greenville, Pa. Diploma, C. L. Rosevear, Toronto, Canada.

Class C. (No report.) Combination pictures.

Class D. Rating competition. Twelve cabinets. Silver medal, L. F. Jansen, Buffalo, N. Y. Bronze medal to all receiving over 21 points, as follows: Remington, Buffalo, N. Y.; J. Newman, New York; Lee Stearns, Wilkesbarre, Pa.; Cairnes, Newark; W. Ashman, Baltimore, Md.; W. W. Cowles, Seneca Falls, N. Y.; Van B. Wheaton, Schenectady, N. Y.; Chas. E. Craven, Kane, Pa.; Tilton & Spuhler, Haverhill, Mass.; Rogers & Newing, Binghamton, N. Y.; Chappell Studio, Oil City, Pa.; E. E. Seavy, New Castle, Pa.; John Betz, Jr., Baltimore, Md.; J. H. Hopkins, St. Thomas, Ontario, Canada; E. Talbot, Schenectady, N. Y.; F. W. Stiles, Westerly, R. I.; J. F. Jackson, Barrie, Ontario.

Class E. Landscapes. Three pictures, 13 inches. Silver medal, L. V. Kupper, Edinboro, Pa. Bronze medal, Tilton & Spuhler, Haverhill, Mass.

Class F. Interiors. Three pictures, 10 inches or larger. Silver medal, Charles L. Rosevear, Toronto, Canada. Bronze medal, J. E. Stanton, Sing Sing, N. Y.

Class G. Commercial work. Six pictures. Silver medal, John Betz, Baltimore. Bronze medal, C. L. Rosevear, Toronto, Can. Third, A. N. Camp, Jamestown, N. Y.

Class H. Instantaneous work, three pictures, 6 inches or larger, of objects in motion. Silver medal, John Rösch, White Plains, N. Y. Bronze medal, George E. Tingley, Mystic, Conn.

Class I. Most tastefully arranged exhibit. Diploma, J. B. Schriever, Emporium, Pa.

Middle Division.[1]

Genre Class. Baker's Art Gallery, Columbus, Ohio.

Class A. First, S. L. Stein, Milwaukee, Wis. Second, B. A. Brigden, Cleveland. Third, W. J. Root, Chicago. Fourth, H. W. Minns, Akron, Ohio.

Class B. First, Thomas Harrison, Chicago. Second, F. R. Barrows, Fort Wayne, Third, H. J. Perry, Aurora, Ill.

Class C. First, H. S. Klein, Milwaukee. Second, George Smith, Cincinnati.

Class D. Silver medal, William Godfrey, Chicago. Bronze medals, Gilbert Temple, Clinton, Iowa; O. H. Parke, Clarinda, Iowa; Nicholas & Son, Greenville, Ind.; C. B. Hinea, Valparaiso, Ind.; J. H. Hendrickson, Cleveland; W. T. Smith, Saginaw; Teubers, Chicago; The Loomis Photo Co., Galesburg; C. J. Van Deventer, Carlinville, Ill.; W. O. Huszogh, Chicago; F. F. Rentschler, Ann Arbor, Mich.; Parke Willis, Crawfordsville; Clifford & Son, Muscatine, Iowa; Hughes, Joliet, Ill.; Reeve, Monmouth, Ill.; Schreiber Brothers, West Bend, Ind.; Ben Larrimer, Marion, Ind.

Class G. McPherson Brothers, Rockford, Ill.

Class H. Allen Fanjoy, Sault Ste. Marie, Mich.

Southern Division.

Genre Class. G. Moses & Son, New Orleans.

Class A. First, F. M. Somers, Memphis. Second, McCrary & Branson, Knoxville, Tenn. Third, G. Moses & Son, New Orleans. Fourth, Knaffl Brothers, Knoxville.

Class B First, Homier & Clark, Richmond. Second, Thuss Brothers, Nashville, Tenn. Third, J. P. Howie, Columbia, S. C.

[1] The competitive subject of each class was alike in all sections.

Class C. First, McCrary & Branson, Knoxville. Second, H. H. Hoffman, Savannah, Ga.

Western Division.

Genre Class. F. W. Guerin, St. Louis.

Class A. First, J. Ed. Rösch, St. Louis. Second, George Steckel, Los Angeles, Cal. Third, F. W. Guerin, St. Louis. Fourth, F. G. Schumacher, Los Angeles, Cal.

Class B. First, H. S. Bellsmith, Denver. Second, Rose & Co., Denver. Third, T. Zweifel, Duluth.

Class C. First, George Steckel, Los Angeles. Second, E. E. Peck, Red Wing, Minn.

Class D. Silver medal, P. H. Bauer, Leavenworth, Kan. Bronze medal, Bushong & Feldon, El Paso; S. Aune, Portland, Oregon.

Class G. E. E. Peck, Red Wing, Minn.

After the Prize List had been read, the President introduced Mr. F. Dundas Todd, editor of the *Photo Beacon*, Chicago, who addressed the photographers in his usual happy manner, giving some very practical advice, and frankly criticising, while praising, the pictures sent for competition at the Convention.

On motion of Mr. Cramer, Mr. Griffiths, of Detroit, and Sr. F. F. Perez, of Mexico City, were elected honorary members of the Association. The usual votes of thanks to the Jamestown press and all concerned in the work of the convention were then passed by acclamation, and the convention adjourned, to meet again next year at the call of the officers.

It was conceded by all who attended that as a practical convention, as well as artistically and socially, the Red Letter Convention was a perfect success.

THE COMPETITORS AT CELORON.

THE list of those who secured prizes in the various competitive classes at Celoron has already been given. In future issues we hope to present examples selected from the prize-taking exhibits. Herewith we present a complete list of all who entered pictures for competition, believing that their enterprise deserves record. Altogether there were 1989 pictures to be judged before the prize list could be determined. These represented the work of the following photographers:

EASTERN DIVISION.

Genre Class. L. F. Jansen, Buffalo, N. Y.; A. B. DeGroat, Bath, N. Y.; Ludwig Schill, Newark, N. J.; Tilton & Spuhler, Haverhill, Mass.; Wm. H. S. Otto, Buffalo; C. M. Bell, Washington; W. H. Partridge, Boston.

Class A. Dudley Hoyt, Rochester, N. Y.; B. Frank Puffer, Wellsboro, Pa.; H. Schervee, Worcester, Mass.; A. N. Camp, Jamestown; David Rosser, Pittsburg; H. H. Pierce, Providence, R. I.; Charles W. Hearn, Boston; J. G. Nussbaumer, Buffalo; J. W. Roshon, Harrisburg; Gilbert Studio, New York; Barron Fredericks, New York; The Albany Art Union, Albany; H. Randall, New Haven, Conn.

Class B. H. B. Eggert, Bethlehem, Pa.; Charles L. Rosevear, Toronto; Ralph Mineart, Pittsburg; C. E. Smith, Greenville, Pa.; A. N. Lindenmuth, Allentown, Pa.: Mrs. W. B. Lloyd, Hartford, Conn.; Geo. H. Van Norman, Springfield, Mass.; G. M. Elton, Palmyra, N. Y.; J. B. Schriever, Emporium, Pa.

Class C. Ralph Mineart, Pittsburg; J. H. Kemp, Scranton, Pa.

Class D. Rogers & Newing, Binghamton, N. Y.; Alfred Holden, Philadelphia; J. Newman, New York; J. B. Stanton, Sing Sing; Walter E. Talbot, Schenectady, N. Y.; T. Henry Black, Jamestown; D. E. Rowell, Lancaster, N. H.; Will H.

Leigh, Beaver Falls, Pa.; F. W. Stiles, Westerly, R. I.; Lou F. Jansen, Buffalo; W. E. Buehler, Philadelphia; H. S. Bitts, Mt. Carmel, Pa.; A. B. DeGroat, Bath, N. Y.; Van B. Wheaton, Schenectady, N. Y.; George E. Tingley, Mystic, Conn.; Will Gray, Easton, Pa.; Tilton & Spuhler, Haverhill, Mass.; Chas. E. Craven, Kane, Pa.; W. Ashman, Baltimore; Charles E. Stacey, Brooklyn; A. Hansold, Allegheny City, Pa.; M. K. F. McCarthy, Binghamton, N. Y.; C. F. Aland, Butler, Pa.; L. Stearns, Wilkesbarre, Pa.; John Betz, Jr., Baltimore; L. V. Kupper, Edinboro, Pa.; H. E. Cutler, Barre, Vt.; Hayes & Graff, Jamestown; E. E. Seavey, New Castle, Pa.; W. C. Thompson, Newburyport, Mass.; Murray & Son, Brockville, Ontario; L. H. Bellin, Providence, R. I.; W. H. Partridge, Boston; J. A. C. Morrow, Hamilton, Ontario; J. F. Jackson, Barrie, Ont.; W. V. Cowles, Seneca Falls, N. Y.; John H. Kemp, Scranton, Pa.; W. J. Huston, Toronto; J. H. Hopkins, St. Thomas, Ont.; F. W. Parkins, Winnipeg; Cairnes, Newark, N. J.; Chappell's Studio, Oil City, Pa.; Remington, Buffalo, N. Y.

Class E. Tilton & Spuhler, Haverhill, Mass.; L. W. Kupper, Edinboro, Pa.

Class F. J. B Stanton, Sing Sing; Charles L. Rosevear, Toronto.

Class G. Charles L. Rosevear, Toronto; Wm. C. South, Philadelphia; James L. Jackson, Williamsport, Pa.; John Betz, Jr., Baltimore; Dean, Williamsport, Pa.; A. N. Camp, Jamestown.

Class H. John Rösch, White Plains, N. Y.; George E. Tingley, Mystic, Conn.; J. B. Stanton, Sing Sing; Tilton & Spuhler, Haverhill, Mass.; Murray, Brockville, Ontario.

Class I. J. B. Schriever, Emporium, Pa.

Class K. J. Savannah, Victoria, B. C.

MIDDLE DIVISION.

Genre Class. S. L. Stein, Milwaukee; James Arthur, Detroit; Baker's Art Gallery, Columbus, O.; Andrew Michaels, Sheboygan.

Class A. George G. Holloway, Terre Haute, Ind.; Dozer & McClain, Bucyrus, O.; H. W. Minns, Akron, O.; W. N. Brenner, Cincinnati; W. J. Root, Chicago; George Smith, Cincinnati; B. A. Brigden, Cleveland; Meacham & Sabine, Youngstown, O.; S. L. Stein, Milwaukee.

Class B. C. C. Pike, Noblesville, Ind.; J. E. Watson, Detroit; T. Harrison, Jr., Chicago; H. J. Perry, Aurora, Ill.; Geo. B. Sperry, Toledo; M. B. Waldo, Fostoria, O.; D. D. Spellman, Springfield, O.; Joseph G. Kitchell, Indianapolis; E. L. Fowler, Evanston, Ills.; Fred D. Foss, Chicago; R. D. Beem, Greenville, O.; Urlin & Pfeifer, Columbus, O; F. R. Barrows, Fort Wayne, Ind.; C. M. Groh & Bro., Sheboygan, Mich.

Class C. George Smith, Cincinnati; Baker's Art Gallery, Columbus, O.; H. S. Klein, Milwaukee.

Class D. The Loomis Photo Co., Galesburg, Ills.; W. J. Smith, Saginaw, Mich.; C. J. Van Deventer, Carlinville, Ills.; Herman Koppleman, Chicago; W. F. Reinecke, Rapello, Ia.; Wm. Godfrey, Chicago; J. M. Brigham, Plainwell, Mich.; J. H. Hendrickson, Cleveland; Schreiber Brothers, West Bend, Wis.; Thos. Palethorpe, Greenville, Mich.; Parker Willis, Crawfordsville, Ind.; Fred. H. Clifford, Muscatine, Ind.; F. R. Snyder, Oxford, O.; Ben Larrimer, Marion, Ind.; Gilbert Temple, Clinton, Ia.; C. B. Hinea, Valpariso, Ind.; C. W. Langdon, Huntington, Ind.; Frank Zivney, Milwaukee; Will J. Smith, St. Mary's, O.; O. H. Parke, Clarinda, Ia.; Nicholas & Sons, Greenville, Ind.; Teubers, Chicago; J. A. Sweet, North Baltimore, O.; W. O. Huszogh, Chicago; Rentschler, Ann Arbor, Mich.: Hughes, Joliet, Ills.; Reece, Monmouth, Ills.

Class G. McPherson Bros., Rockforce, Ills.

Class H. Allen Fanjoy, Sault Ste. Marie, Mich.

WESTERN DIVISION.

Genre Class. F. W. Guerin, St. Louis; S. Aune, Portland, Oregon; T. Zweifel, Duluth, Minn.; C. A. Zimmerman, St. Paul; C. W. Hyland, Portland, Oregon.

Class A. F. G. Schumacher, Los Angeles; J. A. Deane, Waco, Texas; George Steckel, Los Angeles; C. A. Zimmerman, St. Paul; J. Ed. Rösch, St. Louis; F. W. Guerin, St. Louis.

Class B. F. A. Webster, Oakland, Cal.; Rose & Co., Denver; A. L. Jackson, Tacoma, Wash.; T. Zweifel, Duluth; C. W. Hyland, Portland, Oregon; Thomas Stout, Unionville, Mo.; H. S. Bellsmith, Denver.

Class C. E. E. Peck, Red Wing, Minn.; George Steckel, Los Angeles.

Class D. P. H. Bauer, Leavenworth, Kan.; Henry Moore, Kirksville, Mo.; Bushong & Fieldman, El Paso; E. E. Peck, Red Wing, Minn.; S. Aune, Portland, Oregon; H. H. Morris, Galveston, Texas.

Class G. E. E. Peck, Red Wing, Minn.

SOUTHERN DIVISION.

Genre Class. A. H. Plecker, Lynchburg, Va.; J. P. Howie, Columbia, S. C.; Knaffl Brothers, Knoxville; G. Moses & Son, New Orleans; F. W. Morast, Tampa, Fla.

Class A. Knaffl Brothers, Knoxville, Tenn.; McCrary & Branson, Knoxville; J. Henry Doerr, Louisville; W. H. Hoffman, Savannah, Ga.; G. Moses & Son, New Orleans; F. M. Somers, Memphis; F. M. Morast, Tampa, Fla.

Class B. Homier & Clark, Richmond, Va.; J. P. Howie, Columbia, S. C.; W. G. & A. J. Thuss, Nashville, Tenn.

Class C. McCrary & Branson, Knoxville; W. H. Hoffman, Savannah, Ga.

Class D. W. A. Reckling, Columbia, S. C.; J. L. Douglass, Columbus, Mo.; Miss Belle Johnson, Monroe City, Mo.; Mrs. S. Condon, Atlanta, Ga.; J. C. Coovert, Yazoo City, Miss.; Otto Doehn, Wheeling, W. Va.; W. S. Lively, McMinnville, Tenn.; S. L. Alderman, Greensburg, N. C.; G. W. Harris, Little Rock; W. N. Erskine, Huntington, W. Va.

Classes E and F. McCrary & Branson, Knoxville; O. P. Havens, Jacksonville, Fla.

Class G. Knaffl Brothers, Knoxville; McCrary & Branson, Knoxville; J. C. Coovert, Yazoo City, Miss.

Specifications of the classes, alike in all divisions, may be found in the Prize List of the Eastern Division on another page. In addition to the pictures sent for competition there were hung about 200 sent for display only (not for competition). One of the best of the complimentary displays was that of Pirie MacDonald, of Albany. Others were made by the officers of the Association, Messrs. G. W. Varney, Chicago; A. L. Bowersox, Dayton; C. M. Hayes & Co., Detroit; R. P. Bellsmith, Cincinnati; E. F. Hall, Buffalo; and M. J. Steffens, Chicago.

THE PICTURES AT CELORON.

NOTHING could be more inspiring to the photographic mind than the sight presented during a rapid survey of the 2000 pictures displayed on the walls of the Auditorium annex at Celoron as part of the "Red Letter" Convention. The Hanging Committee had accomplished wonders in its department, and the new arrangement of electric lighting enabled one to study the pictures under the most favorable conditions. To put down the impressions received, in cold type, is, however, a very difficult undertaking.

At first glance the preponderance of pictures in carbon and platinotype was surprising. Almost all the best pictures were

prints of one or the other of these kinds. By and by, however, it was apparent that many of the "carbons" were on print-out papers of the matt variety, skilfully finished to resemble the real thing.

The most attractive exhibit, for beauty of work and elegance of display, was undoubtedly that sent by S. L. Stein, of Milwaukee, and shown in Class A. The pictures were framed under glass placed at a distance of four inches from the prints. The frames were black, and arranged on mahogany-colored panels. Fifteen pictures so placed took up fifty feet of space, and the effect was superb. The subjects were chiefly young women, cleverly and naturally posed, exhibiting grace and richness of effect. The lighting was finely managed. Mr. Stein also exhibited several pictures in the genre class, one of these, titled "Love's Frolic," was unusually pleasing. The management of the draperies, to simulate the effect of a breeze, was very skilfully handled, and contributed largely to the effectiveness of the picture. A noteworthy feature of Mr. Stein's exhibits was the remarkable variety shown in the conception and treatment of the subjects, demonstrating the artist's versatility and masterly control of his craft.

Two excellent genres were shown in the exhibit of the Bakers Art Gallery, of Columbus, O. These were the work of Mr. J. S. Schneider, and exhibited his ability in the posing, lighting, and arrangement of story-telling pictures. "Pure as a Lily" and "Thoughts of Love" were especially notable from the artistic point of view. The pictures were all 16 x 22 inches.

Three landscapes, 16 x 22 inches, by McCrary & Branson, Knoxville, Tenn., received much admiration which was well deserved. They were well composed and exhibited pleasing effects in gradation and tone of foreground and distance. It will be remembered that these artists secured the prize in Class A. of their division, at the 1896 convention. In their display in Class A. this year their growth was noticeably evident. The picture of a lady in white, with a rose laid on one arm, deserves mention for its delicacy of pose and general treatment.

Knaffl Bros., of Knoxville, also exhibited in Class A. some thoroughly good work, showing considerable study and skill. These portraits were handsomely framed and attractively arranged. This firm also showed in the genre class two pictures, wherein colored people were used as models. These brought many a laugh from admiring observers, the one titled "Lawd, chile, yo gwine to marry rich" being a special favorite.

Twelve pictures sent by Mr. F. M. Somers, of Memphis, attracted warm appreciation from all lovers of artistic work. Mr. Somers improves in his work each year, and these last examples from his studio fairly give him rank with the leaders in our art.

The complimentary exhibit of Pirie MacDonald rivalled that of Mr. Stein in richness of effect and beauty of subject. It would be impossible to properly describe the exquisite refinement and delicacy of lighting and posing shown in these pictures.

A collection of fine carbon pictures worthily represented Mr. A. M. Camp, of Jamestown. The gem of the collection was a head of the Madonna, which we hope to present to our readers in an early issue. There is evidence of steady growth in artistic perception and excellence of technique in the work of this artist, and we congratulate him upon the success he has so far achieved.

George Steckel, of Los Angeles, exhibited several examples of portraiture in Class A. which call for notice. These showed much originality in pose and remarkable chemical effects.

L. V. Kupper, of Edinboro, Pa., with

whose beautiful landscape work our readers are familiar, secured the prize of his class for four 11 x 14 pictures, which satisfied all who saw them. In these pictures the point of view was carefully chosen, the distances retreated in fine gradations of tone, and the introduction of figures was handled with perfect good taste. By this exhibit Mr. Kupper has still more firmly established his reputation as an artist with the camera out-doors.

Jackson, of Williamsport, Pa., exhibited some exceptionally good commercial work in Class G.

One of the finest displays in the Eastern Division was that sent by Chas. W. Hearn, of Boston, and shown in Class A. The poses of the subjects in this collection were animated, graceful, and most natural.

Louis F. Jansen, of Buffalo, sustained his reputation in an admirable way by three pictures shown in the Genre Class, Of these "Lorelie" and "Rebecca" were much admired.

Tilton & Spuhler, of Haverhill, Mass., also exhibited two capital pieces of work in this class, entitled the "Haymaker" and "Meditation." These pictures showed much promise, and we look forward to the future exhibits of these gentlemen with much interest.

"Looking Backward," "Metete," and "Uncle John" were the titles respectively of three of the most charming pictures shown among the genres. In originality of conception, composition, and posing these pictures deserve much praise. These were the work of A. B. Groat, Bath, N. Y.

Schill, of Newark, N. J., exhibited a genre entitled "Night," which excited much favorable comment and wonder as to its making. It showed a nude figure, with black draperies, apparently flying or floating across a valley through the night.

Fleckinger, of Bethlehem, Pa., exhibited his "Old Man Reading," which was chosen as the "banner picture" of the Penna. Association exhibition. It attracted general admiration.

Frank L. Puffer, a rising photographer of Wellsboro, Pa., sent a remarkable exhibit of portraiture for so young an artist. The management of light and shade in the faces of his subjects (including several portraits of sunburned farmers) was creditable.

Dudley Hoyt, of Rochester, created a furore among the older exhibitors by a collection of twelve portraits of wonderful quality. In these pictures the lighting was concentrated in the centre, leaving the edges quite dark. Otherwise the pictures reminded one of the best work of Pirie MacDonald by their fine technique and general effects.

"The Rehearsal," shown by Fitz Guerin in the genre class, was an admirable piece of work, and received great praise.

The cabinet portraits were so numerous and so uniform in general quality that it was difficult to select those most worthy of mention. Perhaps the exhibits of Otto Doehn, Wheeling, Va.; W. N. Brenner, Cincinnati; Geo. E. Tingley, Mystic, Conn., deserved special praise.

W. H. Partridge, of Boston, showed several good examples of composition work; W. H. Otto, of Buffalo, also made an exhibit in this class which impressed one favorably as indicating much thought and skill.

Aune, of Portland, Oregon, sent a picture entitled "Papa's Coming," which drew general admiration; and C. A. Zimmerman, of St. Paul, was represented by several excellent genres, exhibiting much artistic feeling and skilful treatment in pose and arrangement. G. Moses & Son, of New Orleans, sent three beautiful pictures for exhibition in this class, as also did James Arthur, of Detroit.

A notable exhibit in Class A. was that sent by H. Randall, of New Haven, Conn. This collection, with that of Mr. F. G. Schumacher, of Los Angeles, equalled

any other exhibits of their class, the beautiful technical and artistic quality of the work revealing the capabilities of these well-known workers in a most pleasing way. It is difficult to see how these two exhibits escaped higher awards in their class.

The examples of portraiture sent by J. E. & A. J. Rösch, St. Louis, were characteristic of their makers, showing perfection of technique and pictorial effect. The flashlight composition work of Mr. F. Guerin, of the same city, showed remarkable skill in this branch of photographic work.

Dozer & McClain, of Bucyrus; H. W. Minns, of Akron; B. A. Bridgen, of Cleveland; W. N. Brenner, of Cincinnati, and Geo. B. Sperry, of Toledo, ably represented the progress of Ohio in photographic portraiture, and deserve cordial praise for the fine work sent for competition.

J. B. Schriever, Emporium, Pa., and H. B. Eggert, of Bethlehem, Pa., sent some clever work which was shown in Class B. The Western Division was creditably represented in this class by the work of H. S. Bellsmith, and Rose & Co., of Denver; T. Zweifel, of Duluth, and F. A. Webster, of Oakland, Cal. T. Harrison, Jr., and W. J. Root, both of Chicago, exhibited collections of portraiture showing exceptional ability in posing and lighting the subject. Geo. B. Sperry, Toledo, sent a notable piece of genre—an old man reading, which won for him the praise of all observers. James H. Kemp, of Scranton, Pa., sent a few carefully handled combination pictures, which gave one a new view of his capabilities. John Rösch, White Plains, N. Y., exhibited a number of instantaneous pictures which were closely followed in general excellence by those of Mr. Geo. E. Tingley, Mystic, Conn., shown in the same class (H.).

And so one might go on describing the exhibits seen at Celoron until the reader would be thoroughly wearied. We desist. It was unquestionably the grandest display of photographic work ever made in this country. The posing, lighting, and general composition of the pictures showed undeniable progress when compared with the exhibits of 1896. There were blunders, of course, and many good pictures were ruined by lack of attention to the little points; but, taken as a whole, the exhibits made one proud of photography and of its development.

WITH THE TRADE.

MANUFACTURERS AND DEALERS AT CELORON. The trade department of the Convention was larger than usual this year, the whole of the Auditorium being given up to the exhibits. As a rule, the booths were decorated, and the sight as one entered was tastefully effective. The American Aristotype Co.'s display was, perhaps, the most extensive and attractive. It comprised pictures on aristo-platino and other of this company's print-out papers from almost all the galleries of repute in the country. A separate feature was a resting-room for ladies visiting the Convention, where lemonade, etc., was dispensed. The display was grouped in the rotunda at the end of the annex. The booth of the G. Cramer Dry Plate Works, as last year, was arranged as a Turkish-room, wholly draped in red. It presented a bewildering array of beautiful photography, demonstrating the value of the various brands of Cramer plates. Mr. G. Cramer, Mr. Paul, Mr. Sydney Wells and "Billie" Rundle were here to meet their friends, and the souvenir of the occasion was a jewel-studded crown pin. The M. A. Seed Co. was represented by Mr. Seed in person this year, assisted by Mr. George Murphy and others connected with this popular plate. The exhibit of work made on Seed plates was noteworthy, and the booth was crowded from first to last with visitors. The Hammer Dry Plate Co., represented by Mr. Hammer, Sr., and his popular son, showed a collection of wonderful work as testifying to the quality of the Hammer plate. The Climax plate, represented by Mr. C. O. Lovell and his aids, had a grand exhibit of work by J. F. Ryder, C. W. Hearn, I. De Vos, and other prominent photogra-

phers. Messrs. E & H. T. Anthony & Co., had a very extensive display, especially strong in cameras of all sizes and studio apparatus, with a full line of the thousand and one specialties for which this house is famous. Messrs. James H. Smith & Co., of Chicago, were well kept before the fraternity by an inspiring exhibit of their burnishers, camera-stands and other selected photographic helps. Messrs. Allen Bros., of Detroit, had an attractive wall space devoted to photographs made with the famous Suter lens, and new ideas in mounts, mats, medallions, with other means of displaying pictures. A display which drew general attention was that of G. Gennert, of New York. Here were seen a full collection of the celebrated Ross lenses for all purposes, new hand cameras in all styles, the Eddowes vignetter for negatives, requisites for carbon printing, some fine portraits on albumen paper, etc. A new firm in the manufacture of print-out papers, Messrs. Reichenbach, Morey & Will Co., of Rochester, made their bow to the public with a fine display of work on their "Victor" paper at one of the most prominent booths. Mr. C. P. Goerz, the importer of the original Goerz Anastigmats, was ably represented by Mr. DeHeer Holst. Hugh Morrison & Sons, of Pittsburg, were represented by Mr. Morrison in person. The Wuestner Dry Plate Co. exhibited an imposing collection of work made on Wuestner plates. Mr. D. F. Hulbert, of St. Louis, made a fine display of metal bas-relief portraits by his new patented method, represented by W. T. Bender. The A. M. Collins Manufacturing Co., Philadelphia, showed their latest novelties in card mounts. Mr. H. A. Hyatt, of St. Louis, had a fine showing of his washers, retouching instrument, and other recent introductions. Other firms represented on the floor were The Scovill & Adams Co., National Photo-Paper & Chemical Co., Carl Ernst & Co., The Empire Photo. Paper Co., David Tucker, Globe Scenic Co , Packard Bros., Rough & Caldwell, L. W. Seavey, Edw. Davis, Geo. B. Angell, M. B. Buchanan, The Chicago Photo. Stock Co., and Sweet, Wallach & Co.

EDITOR'S TABLE.

OBITUARY.—We record with regret the death, at Memphis, Tenn., July 1st, of Mr. BENJAMIN BINGHAM, a well-known citizen of that city, and, probably one of the oldest photographers of America. Mr. BINGHAM had, at the time of his death, followed photography for forty-one years. He was known and esteemed for his amiable character and integrity in business.

CHANGE OF FIRM NAME.—Messrs. ROSS & Co., opticians, London, the manufacturers of the Ross lenses,notify us that hereafter the firm is to be known as Ross Limited, having been turned into a limited liability company. The office address remains, as before, at 111 New Bond Street.

A SPECIAL OPPORTUNITY.—Any one having cash to invest in a good business in a city of 100,000 population can learn of a good opportunity by addressing the office of this MAGAZINE.

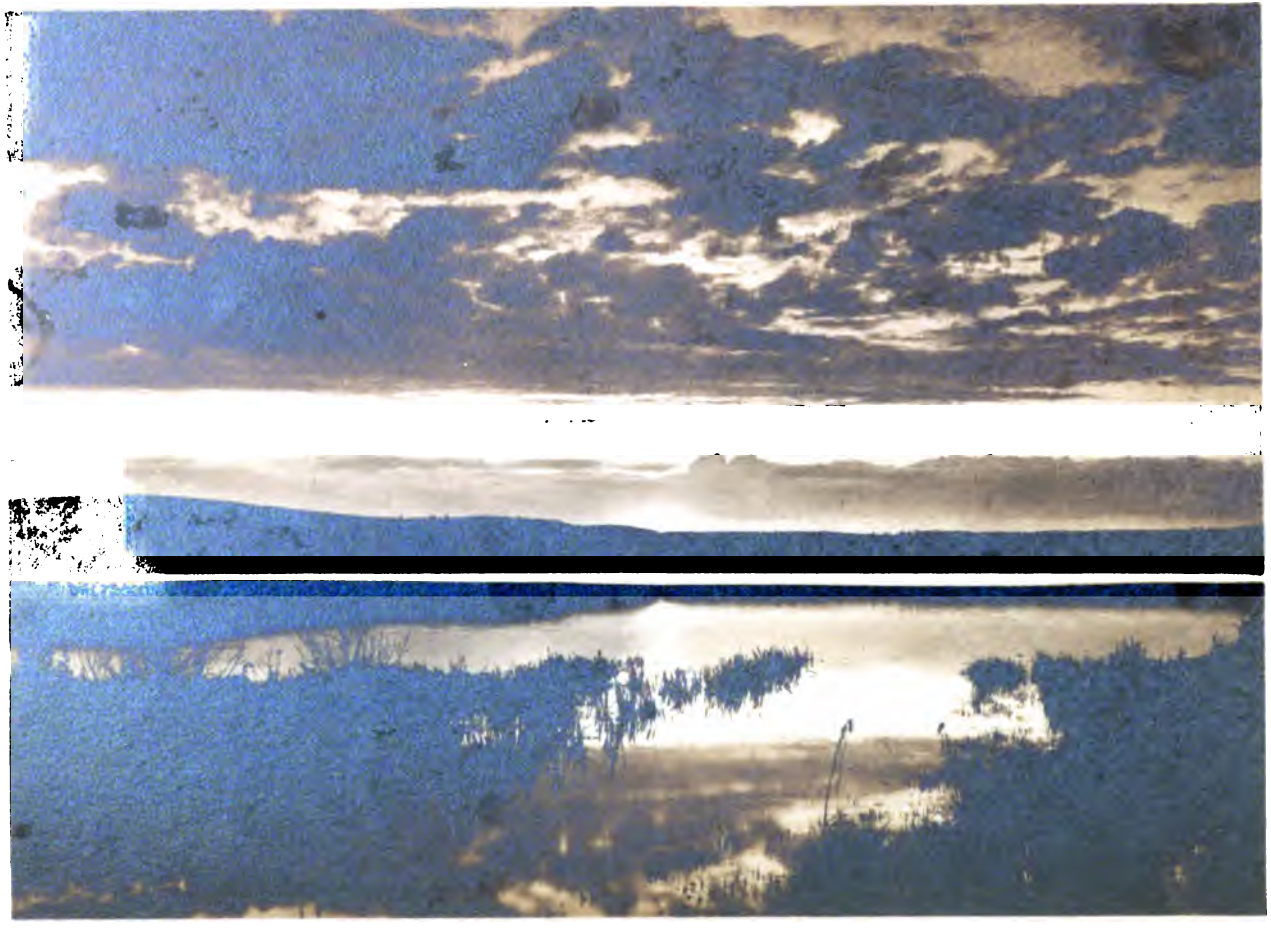
THE AWARDS announced in connection with the series of letters on "A Trade Printing-House," given in a previous issue of this MAGAZINE, fell to Mr. W. N. DANVERS, of St. Louis, and Mr. J. H KEMP, of Scranton, Pa.

THE NATIONAL SALON.—In order to accommodate many professionals who could not otherwise complete their competitive pictures in time, the National Photo. Paper and Chemical Co., of Springfield, Mass., has postponed the closing of the Salon competition until August 1st. The awards will be published in our pages as soon as announced.

MR. F. G. SCHUMACHER, of Los Angeles, favors us with a few examples of his recent work. Some of these will appear in *Mosaics* 1898, which, by the way, promises to be the best illustrated annual of the year. The pictures sent by Mr. SCHUMACHER are full of ability, and exhibit the fine technique and feeling which have made his work so famous.

OWING TO THE PRESSURE of convention matter, many interesting notes prepared for this issue of the MAGAZINE are unavoidably crowded out. Our next number will be especially attractive, and subscribers whose subscriptions expire with this number will do well to renew early, and so avoid disappointment.

MR. J. C. STRAUSS asks us to explain that his absence from the Celoron Convention was due to the serious illness of his father. Our readers will, we are sure, share our sorrow in the knowledge that this illness terminated fatally on the morning of July 23d. Mr. STRAUSS, Senior, was in his 73d year.



C. C. LANGILL

NEW YORK

SUNSET

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WILSON'S PHOTOGRAPHIC MAGAZINE.

EDITED BY EDWARD L. WILSON.
JOHN A. TENNANT, Associate Editor.

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ON THE GROUND-GLASS.

THE improvement in business conditions becomes more plainly evident every day, and *The Ground-Glass* focusses upon reliable signs that the year will end more prosperously than it began for many photographers. If the focus is true, it would appear that those who have attended the conventions will be the first to feel the genial influences of prosperity. This is right. The revised version of an old saw reads: "All things come to those who hustle while they wait," and the men who attend the conventions may be fairly classed as "hustlers." Of course there are enterprising photographers outside of those who attend the gatherings of the craft, but the enterprise of those who do attend is pointed and directed by a definite aim. The advantage of this will be readily appreciated.

The Ground-Glass has spent some interesting hours with the reports of the recent conventions at Celoron, at Harrisburg, Pa., and at St. Paul, and focusses upon a distinct need in the fraternity which so far the conventions have overlooked. Instruction in art and in technical matters is abundantly supplied, and the appreciation given by those who receive testifies to their need of it. Photography, however, is a business, and *The Ground-Glass* suggests that the business end of photography should receive its share of attention. How interesting it would be, for instance, to focus upon the actual methods by which such men as MacDonald, of Albany, Steffens, of Chicago, or Stein, of Milwaukee, have built up the material prosperity which which now attends them. By "business methods" *The Ground-Glass* means the ways by which they secure trade and enlarge their hold upon the public, their manner of handling their patrons as customers, and similar details. It is very well to say: "Do good work, and the public will come to you;" but, as a great many know by experience, good work is not the only factor in success; right business methods have something to do with it.

While the Celoron Convention was in session on this side of the Atlantic, British photographers were enjoying their annual gathering at Yarmouth. This affair seems to have been most successful and very enjoyable. Several delightful photographic excursions were had, and some interesting papers were read at the evening meetings. One of the features of the convention was an exhibition and demonstration of the Dansac-Chassagne color process, given by a Parisian lady who attended for the purpose. This seems to have been a veritable

eye-opener to those who attended, and had an unfavorable effect. The editor of *The British Journal of Photography* voices general opinion about the matter, as follows:

"The process can only be regarded as a not too effective method of coloring photographs. We do not believe that selective color absorption has anything to do with the *rationale* of the process. This theory has all along been advanced on trust. Not one tittle of evidence has been adduced to support it. We believe we are correct in saying that at one of the demonstrations an ordinary piece of white paper was made to take the colors just as the silver-albumen photograph was made to do. How does selection come in here? In short, we are convinced, as was every practical photographer at Yarmouth last week, that the Dansac-Chassagne process is simply a method of harmoniously coloring photographs with which persons of some artistic skill can produce very passable results. Surely, were it otherwise, it would be the easiest thing in the world to prove that selective color absorption had something to do with the matter. Our faith in the existence of this strange phenomenon received an irrecoverable shock when we saw, last week, the *local* application of color. Apparently the manipulator does the selection, not the photograph and the color."

The announcement is made that the fifth exhibition of the Photographic Salon will open at the Dudley Gallery, London, October 4th. This is one of the two photographic shows of importance held in England each year, and it is very desirsirable that American photography should be represented. There are no medals offered, but the acceptance of pictures for exhibition is in itself deemed an honor to the exhibitor. Mr. H. P. Robinson is the chief moving spirit of the affair, and the work accepted is adjudged by its artistic worth. The receiving agents for the pictures to be sent are Messrs. Dicksee & Co., 7 Ryder Street, St. James', London, and the last day for the reception of pictures is September 8th. Mr. Alfred Maskell, Ilfracombe, England, is the honorary secretary of the Salon committee.

Judging by the recent convention exhibitions there is little doubt that platinum and carbon effects will play an important part in the high-class portrait work of the coming season. Inasmuch as carbon and plantinotype printing are looked at askance by many photographers, *The Ground-Glass* directs the focus of the fraternity to two or three recent introductions which give the desired effects in ways with which the professional photographer is already familiar. The new Vera Matte paper of Reichenbach, Morey & Will Co., gives perhaps as close an imitation of a carbon picture as we have yet seen. It is a print-out paper toned with platinum. The rough canvas-surfaced positive film of the M. A. Seed Co. is another excellent substitute for the carbon tissue, and, as the frontispiece of this number of the MAGAZINE shows the rough Carbon Velox paper made by the Nepera Chemical Co., gives prints hardly distinguishable from platinotypes.

The Ground-Glass focusses with pleasure upon an interview had by the editor of the *Photo Beacon* with Mr. Steffens, of Chicago. In it Mr. Steffens says two or three things which have long needed saying by some one to whose opinion photographers will give attention. These things are briefly: that there is a large and profitable field in pure portraiture for all who desire success without the need of taking up other branches of work; that genre photography has received more attention from photographers in this country than it ever deserved from a business stand-

point; and finally, that there is little or no excuse for the nude in photography as it is generally done. With which we cordially agree.

Success makes itself known in strange ways! The editor of this MAGAZINE has for years striven to direct his coworkers in the cultivation of the critical faculty as a means of improving their work. He has succeeded in at least two instances, but the outcome has its disadvantages. These two photographers, men known for their artistic work, promised photographs for reproduction in these pages. When the time arrived for the dispatch of the work they wrote:

A. "I am become so critical and exacting about my portrait work that I am rarely, if ever, satisfied with it, so that I beg to be excused from sending you examples which I know will shame me hereafter."

B. "You shall certainly receive examples of my work for reproduction as promised, but when I cannot tell; the MAGAZINE makes me so 'finical' about my work that I am actually afraid to show myself in print."

This is the critical spirit—*in extremis*.

PICTURE-MAKING.[1]

THE world moves in cycles. This has been the history of nations from the beginning. We start low, and make onward progress in civilization and improvement, slipping backward, and then starting anew, until we reach the highest point of attainment in civilization; then we begin to go down, and a new nation takes up the march of progress. It has been the history of the Venetians, the Assyrians, the old Greeks, and the Romans.

Each empire came in its time, passed in a circle, and went down in a sunset. The question comes up: isn't this the apex, isn't this the top; or are we nearing the top and just getting under the sun? Pirie MacDonald, quoting Emerson, yesterday, said a picture was the materialization of a thought. He might have gone further, and said that it was the breath of a thought, the realization of an idea. It is the materialization of the poetic dreams that flash through the brains of men which we call genius. Sometimes these are not understood, not grasped; they simply do not tell the story, and the result is disappointment.

As we pass from the earth, it is natural to strive in some way to leave behind some memento of ourselves, or of some fancied deeds. The Greek girl of centuries ago, who, standing in the sunlight and talking to her lover, traced his profile with her stylus on the white wall, was the beginning of photography. It would keep to her memory some semblance of the man whom she looked upon as her ideal.

Bobby Burns, the man who could plow along the hillside and dream those marvels of poetic fancy that thrill not only Scotch people but all the world, said: "Oh, wad some power the giftie gi'e us to see oursel's as ithers see us!" The vain man says: Make me beautiful; the dignified man will say to you: Make me grand looking. Queen Elizabeth said to the Scotch envoys: "They tell me your Scottish queen is beautiful; is she more beautiful than I?" What a homely contrast, for Elizabeth was never noted for her beauty. Cleopatra, that serpent of the wondrous river that winds around through its thousands of miles, sent her messengers to Rome to bring her back word what sort of woman was Octavia. She wanted to know the link that made up the chain that drew

[1] Professor Griffith's second lecture at the Celoron Convention, Thursday, July 15.

Marc Antony from Egypt to Rome; but the wondrous woman had a power within herself that she did not realize, and, to me, there is no more marvellous picture in all history than this same Cleopatra.

They will tell you she was a bad woman. I grant it, and yet through all her badness there was the most magnificent loyalty to her country. She found that she was unable to cope with the magnificence and genius and strategy of the mind; she said, I have yet one woman's weapon; I will conquer the conqueror, and save my country. Her wondrous beauty, for once, she realized, and drifted down that old Nile, which, by the way, people tell you is green—I was in a studio sometime ago, and was shown some Nile-green draperies. The Nile is not green, it is blood red. For months the people wait for its coming from the mountains; they know that a certain height means plenty; another depth, flood and destruction; and it is the scum and dregs, when the river is low, that are green. The river itself is blood red. This woman, who for once realized her power, floated down that river under purple silken curtains, and when she reached the conqueror she did not ask him to come to her, because she knew he would think that there was a trap laid, but she was taken to him, and in all her loveliness brought before him. He was won. Her country was saved, and the woman was queen, simply because she had conquered the conqueror, and he realized that if he wished to hold his own he must return, as she had fled to the tomb of her fathers. Then that marvellous picture, Marc Antony, back, walking the streets calling for his queen; and they said to him: "Go to the tomb," and there her attendants threw down a rope, and they pulled him up to find she was dying. Not the presentiment of a figure, of a face, or of a form, but the facts creeping out.

Old Hickory said: "Make me like myself." He knew no rule of beauty, and he wished to be presented to the world as he was, and yet there was an inside character which he never gave to the world. The first Napoleon said: "Make me look like the Cæsars." There is the vanity that creeps out of every man. Make me look like someone whom I have taken as my ideal. The portrait painter who studies the man, makes the man as he is, with the soul back of him. I do not believe in phrenology. I do not believe you can tell any more how much is in a man's head by feeling the bumps than you can tell how much money is in the safe by feeling the knobs on the door. But I do believe in physiognomy. If one of these manufacturers comes to you, you say to yourself: I will trust him; he is honest; there is an honesty of purpose back of his face which you appreciate. I told Charley Hetherington once that I was going to put in an application for a magnet.

Twenty years ago I stood in the office, a boy, at the Centennial Fair, and saw Dom Pedro come in with young Bell and introduce him to Colonel Goshorn. He strung a wire across the Exposition building on Sunday, and that was your first telephone; that was twenty years ago.

Well, this Frenchman is working on two magnets, one that he keeps, and I am going to have one, so that I can keep up with Charley Hetherington. I don't think I can keep up with him, but I will know where he is. I will reach in my pocket and take out a magnet, and it will ring a bell in Charley Hetherington's pocket in Chicago.

The camera is now placing on the screen moving figures. Is it not approaching the point where it will do away with manual labor in the matter of producing pictures of the man and woman of to-day? It seems to me that it is the wisest thing to take hold of the tools you have, and get from them the greatest results possible.

You can do no work with "half-way" tools. It requires the best of everything to take hold of work that will educate the people. The thought that five years ago, ten years ago, you had to put on your chemicals, taking your old silver baths out into the sun, and fixing them to be able to do something. The old photographers will remember that—blundering along in the dark and trying to get the best out of the materials you had. Men who have made a study of these things have changed all that; now you simply have to go out and buy the materials.

I said the other day that I was lazy. I stick to it, and I admire the Yankee who sits on the fence a whole day, and thinks out how he can avoid sawing wood fifteen minutes.

I think the man who sits down and thinks out the way to accomplish his work is getting along better than the one who simply plods, and works and works. They are doing no thinking, simply working—drudging. It is the man who goes out on the street that will make the illustrator. He sees how the woman walks up to the door, how she leaves her card with the servant, catches the swish of her dress. A young man I knew went into an office and asked for a position. They said to him: "Go out to the elevated, and bring back the types of people that travel. He came back with sketches, one in particular of a fashionably-dressed gentleman talking to two ladies. The editor looked at it, and said: "That is a pretty idea, but the man's collar is out of date; it is last month's collar; the necktie is out of fashion." This shows the necessity of keeping things up to date.

If you ever go to Paris, I beg you to go to Grevin Museum. There the best artists of the city are employed, and the figures are dressed every day. There is not a speck of dust on the man's shoes. The woman's dress falls in folds that were done to-day. The figures are so natural that the only way you can tell the wax figures from the living people about you is to watch and see whether they move. I think I never enjoyed myself better than I did there, simply by standing still and getting the comments. There you find the President of the French Republic dressed for the reception, even to the last button of his coat; it is simply the height of artistic excellence. I went to three or four different men to get a catalogue before I found I was talking to someone who couldn't hear.

A man paints a picture, as the story goes, and puts it before the public. It is a shoemaker with a last on his knee. A shoemaker comes in and looks at it, and says: "Well, a man never holds his last like that." The artist hears it, and recognizes, as an honest man ought, that the criticism is true. He goes to the shoemaker, and studies just how he holds the last, and puts his perfected picture on exhibition; then the shoemaker is pleased, but he says: "I don't think the shadow of that man's face is correct." He has gone beyond his depth. Think of that when anyone criticises your work, and consider whether he knows what he is talking about.

Henry Ward Beecher told once of a woman whose sweet face and voice captured his congregation; she sang in the choir and drew crowds; they came to listen to that sweet voice. By and by he noticed that she had drifted out of the choir; he made inquiries after several months, and found that she had married and gone to reside in a little inland village. A couple of years afterward he looked up suddenly, and saw that face, draped in black, refined, made better, passed through the fire of human endurance, and become idealized. When she began to sing again the people all turned their heads; her notes were not so high, nor

did she stoop so low again in her tones as in past years, but there was a human sympathy. She had been singing lullabies to her child, and now the whole crowd turned and watched that one magnificent womanly face. It was not mere music; it was the nobler music that comes from the heart, appealing in sympathy to the people. She had learned to sing through singing these lullabies to her child.

Take the old, old story of Michael Angelo: He found a boy in the streets whose face was so wonderfully beautiful that he said: "I will make of him an angel," and he took him to his studio. To-day his face is repeated again and again in Michael Angelo's studies. Years passed by. One day he walked the streets of Rome looking for a face and figure that would represent the Angel Gabriel in his famous "Last Judgment." By and by he found a face so full of revenge, so black and evil, that he said to the man: "Come to my room." The man came, and he painted him representing his Satanic Majesty. During the sittings he got the story of his life, and found it was the angel.

A man's life makes his face; that gives to Charley Hetherington that broad expansiveness of face that shows his whole-souled nature, and makes him lovable. (Here Mr. Hetherington arose and advanced, offering a crisp $5 bill.) Give to each man, woman, and child his character, try to find the way they walk, the way they talk, and then you have caught something of the character. This morning I had a walk over the hills, and saw nature. We say nature reveals herself to some people, to the poet, to the artist. She will reveal herself to anyone who will go and seek her company.

Great banks of clouds came up over the hills, the changing waters of the lake were like a magnificent emerald, and away, far up on the hill, I found a vacant house tumbling down. I went up and around it—the open fireplace, generous in its expansiveness, began to tell me its marvellous story of how the family, two human hearts united in one, had come here and built their home—how they had reared their family. I dreamed again and again over the different fates and lives of its occupants, and wondered where in the wide ocean of human life they were to-day. Here was their old house, high and dry, like some old rock thrown up by the ocean tide; at the doorway I stopped to pluck a blossom, recalling all the memories of this old house. Silently it told its story, as every picture should. You could weave around it a volume. I wished that I might go there again when the day was done—when night, seeming to bid farewell to all the world, threw across the western sky great banners of gold and scarlet—and then, as if jealous of this gem of nature's setting, night gathered together its sable folds over it and pinned them with a star. To feel these things is the beginning of art.

BUSINESS MANAGEMENT.[1]

BY PIRIE MACDONALD.

ALMOST all of us, when we start in business for ourselves, do everything from the cleaning of floors to the delivering of pictures, and we feel that the day of emancipation comes when we have business enough to engage a printer.

This life is made up of waiting spells—waiting for some step that we wish to take, or for the fruition of some seed that we have planted, and we feel that when the

[1] Extracted from an address made at the Celoron Convention, Wednesday, July 14th.

printer comes into the house everything will be complete. When we get the printer we want a retoucher, because we are working too hard; and then—some of you go on as I have done—you get a colored porter, you get a lady's maid, you get a man to hold up your hands, and all those things. I believe truly that the more hired help a man has around him the more thoroughly a slave that man is. I am not now speaking with any kind of prejudice against our hired help, of which we were all a part at one time or other; but I do believe very firmly that we would be infinitely happier if we were able to get along with perhaps one or two capable assistants, and make better work and less of it. There would be the same revenue and the same profit to the house, through charging larger prices for better work; but you want to remember that if you want this better work to come out of the one or two men they must be better men.

How often (and I have got a printer that I like pretty well) we look over a negative and then we look over our prints, and know that the negative has not received adequate treatment. I claim, in the majority of cases our printers are, comparatively speaking, incompetent, for two or three reasons. We have abundance of men in the printing business, as in all other professions, but they are not sufficiently encouraged with money. We drive them out of printing into making negatives because we pay more money for making negatives than for printing, and I feel rather this way in regard to a printer: If that man is to carry out, to supplement my work, that man must know as much about his work as I know about mine, and the only way that you can hold a man who knows as much in his line as you do in yours is to pay him as much money for doing his printing as you would pay an operator.

Do you realize that of our entire product, your negative is not your product as relating to the finished picture (it is only part, and ought to be let in duty free), the print is the thing you give your clients for their money. Is it fair, then, to let prints go out of the house the permanency of which, we will say, you question? the quality of which, we will say, you question? the value of which, as reproductions, you question? And you do question it, in the majority of cases, with a great deal of justice. Is it right that we should do our work, and then trust someone who is not thoroughly competent to finish that which people are paying for? It is not honest. We must have more capable men in our printing-rooms. This is a mere thought, but it may lead some of you into the right direction.

The thought naturally hitches up with another one. If you are able to personally direct every person in your house you get an *esprit de corps* infused into your assistants. They feel as though they were a part of the establishment. Now, how many establishments there are where there is not that feeling; where the printer, the retoucher, the porter simply want your money. If you handle too large an establishment you cannot help yourself, they are bound to be away from you; but if you handle a smaller one, and insist upon their living into your ideals, you are making for yourself a little community; you are making for yourself strength, and, through the fact that your product is better, you are making yourself happier.

Always ready hypo-solution. Fill an 80-ounce bottle with water, and put in 2 pounds of hypo-soda. When dissolved the solution is of the required strength for plates. To fix albumen prints dilute the solution before use with an equal proportion of water; for collodion papers dilute with two parts of water to one part of hypo-solution. Use fresh solution for each batch of plates or prints.

QUANTITY *VERSUS* QUALITY.

JUST before the Celoron convention came to an end an interesting discussion ensued touching quantity *versus* quality in the preparation of work for the competitive classes at the conventions and in making work for the public. We quote the official report:

By MR. HAMMER: If this convention will allow me just one word: I have been to this convention, and never had a chance to get in a word edgewise. One thing strikes me very forcibly in a convention of this kind; in Mr. Griffith's words, it is all boy's play to talk about producing a good picture on very short notice. I notice the request that every picture for this exhibition be made within one year. I believe that this is a ridiculous resolution. If it takes men years and years to create an idea and put it on canvas, it also takes the photographer years and years to produce a photograph. If you will take Class A—it requires twelve pictures. Tell me of a man that can create twelve brilliant ideas in a period of twelve months and do his best. It is almost impossible. Take the Genre Class—it is almost impossible to fill the conditions and do your regular work. I think it is no more than right that we take the idea that Professor Griffith advised the other day, and change the constitution and by-laws so that that man who has created one beautiful picture in the year and is barred from putting that in, may have an opportunity to put it in. I make the motion that the Executive Board be instructed to eliminate that rule from their mode of governing the convention.

By MR. PIRIE MACDONALD: The question is of great importance. I take issue with Mr. Hammer on the main point. Granting that it does take time to create ideas of any kind of value; granting that other people do take much time to create pictures, we have in our hands something that will allow us to create infinitely more rapidly. I am in favor of cutting down the size in the Genre Class. That line of work is our love work; it is the work that comes from our souls, and we haven't had definite and distinct training in it. To produce one masterly thing in one year is more than most of us can do in that class.

In portraiture, again, I think that it is wrong to force a man to make, as we had for example during last year, twenty-four pictures in Class A, or twelve, as we have this year. Twelve—the old baker's dozen notion—the twelve itself is ridiculous. Pictures should be made as single ones. I am distinctly in favor of having one grand prize for the *one* picture, and, if Mr. Hammer will allow me to suggest it, I think the Executive Committee do not need in this instance to be forced to do something which they know is the spirit of this house, and would suggest Mr. Hammer withdraw his resolution.

By MR. HAMMER: I will certainly withdraw the resolution. I would just as lieve create the sentiment as the force. I think it is far better to have three, four, or five pictures in one class, and have them beautifully carried out, than to have a dozen or twenty that are not as good. When you look at the photography over there in the hall you think that it is a beautiful thing; but when you look at the miserable and awful work that is being turned out in portions of the country where people have not the facilities, you will acknowledge that it is far better to make a few pictures, and show the world how beautiful pictures can be made, than to let in every exhibit. You will find by taking ten, twelve, fifteen, or even twenty pictures, men who have made one or two good pieces of work are

barred by the rule, and will take a picture of Mrs. So and So, and think that is nice, that will do. Some pictures over here are simply grand—wonderful; but their next-door neighbors are awful; and the man loses by this. It would be better to have the exhibit small and beautiful than large and bad.

By MR. MOSES: I would like to make a few remarks. Should the convention be a place where one or two beautiful things are shown? Should it not be an exhibition of work such as we are endeavoring to give to our customers, and not just an effort to show what we can do? I don't see what advantage it can be if you show one or two brilliant things and the work our customers get isn't up to the standard. We should endeavor to make everything we do brilliant.

By MR. MACDONALD: Simply one notion in regard to that. Whether you have one picture or a thousand pictures, you can't make the convention do the work of the man's conscience. If the man makes one special effort during the year to make his exhibit, and then makes all the rest of his work in a slipshod manner, it will be but a very short time before he is incapable of making even one picture of that value. My opinion of cutting down the exhibits is this: that we are making our art commonplace by forcing people to take a quantity of it. We have always had the short end of it, because we have been working dozens. I claim there is such a thing as complete individuality in work, and that the single piece can as well represent the man as a dozen. I really believe that the photographers will take hold of the spirit of the thing, and that if you put in a class for single pictures you will have more good pictures in that class than in any of the others for a hundred years. They will all be ashamed that they can't make one picture. Remember, next year we will look at your *one* picture, and if you can't make that we will know it. Show your hearts.

By MR. SCHERVEE: I want to say something of a personal friend and photographer whom I met last year. I went into his place, and I would say that he was an artist in every way. What took my attention was this—he made only one picture, and for that picture he asked fifty marks; the picture was card-size or 4 x 4. If you should ask him for another picture from that negative, he wouldn't make it at any price.

By MR. SWARTAT: In answer to the few remarks made by a member about putting in the whole year's work to turn out one masterpiece, I would say that when a person goes through life seeking to gain some selfish point he will not gain that happiness. When we gain happiness we gain it from making happiness for others. If we study each face from the minute it comes in our studio until it leaves, we will develop a certain amount of art feeling that will bring to this convention things we will be proud of. I have work I am proud of, but not so proud of that I could put it up and say: That is the very best that I could do, but I am ashamed of the work I made a year ago. By the side of the work I made a year ago I couldn't present enough to make up a fine collection now, but I could present a few that I would be proud of by the side of that work.

The discussion ended here without practical fruit.

A good anti-halation backing for plates is made by dissolving 40 grains of shellac in an ounce of good alcohol. Clear the solution by shaking it up with a little chalk, and filter. Then add 5 grains of aurine. A few drops of this mixture are put on the back of the plate to be treated, and spread over the surface with the tip of a finger. The film is thin, but a perfect preventive of halation by reflection. It dries with a matt surface in two minutes, and is easily rubbed off in development with a wet rag.

IMPURE SULPHITE AND "VELOX" DEVELOPING.

BY DR. LEO BAEKELAND.

MANY irregularities in developing dry plates or bromide papers are the result of impure or deteriorated chemicals. The developer itself is a rather delicate mixture, because its active parts are liable to absorb oxygen from the atmosphere and become oxidized. Such an oxidized developer has entirely different properties from one that has been freshly made up.

Nearly all developing solutions contain sulphite of sodium, which is a rather treacherous chemical, owing to the fact that it is liable to oxidation, transforming itself into sulphate of sodium. It happens sometimes that during the process of manufacture the sulphite of sodium has been oxidized to a large extent into sulphate of sodium. When sulphite of sodium has been kept for a very long time exposed to the air it may become oxidized to such a degree that it is transformed mainly into sulphate. The only way to prevent this would be to keep it in very well closed bottles so as to exclude the access of air.

When this oxidized sulphite is used for making developers for Velox paper it will very often give the most unexpected and discouraging results. My attention has been called repeatedly to the fact that in developing glossy Velox prints, often the image did not appear, except in certain places and in the most irregular fashion, thus causing a sort of a "freaky" picture, as if the paper had been handled with greasy fingers or in oily solutions, or as if the paper had been coated imperfectly. Whenever this occurred I was very careful to examine the paper in question in order to see whether I was able to produce the same strange results. In every instance by using the metol-quinol developer, as published by the manufacturers of this paper, I got perfect images without even the slightest suggestion of the strange results which had been noticed by others. A short time ago, however, while trying to develop Velox paper by means of some ready-prepared developers manufactured by an American firm, I obtained the irregular development above referred to. I tried to avoid this bad result by varying the strength of the developer or by the addition of bromide of potassium, but regardless of these modifications I was unable to avoid the trouble. On the other hand, when I took the same paper and developed it with freshly-made metol-quinol developer, the picture was clear and brilliant without the slightest irregularity. As the ready-made developer had been kept by me for several months in a dry condition, it was natural to admit the possibility that probably some of the constituents might have become oxidized, and my attention was then directed to the sulphite of sodium. I therefore concluded to add to the developer a fresh amount of a newly made solution of sulphite of sodium. The result of this addition took away all doubts about the question. I obtained at once clear and perfect prints, using the same developer which heretofore had only given me bad results, being able to produce with certainty good or bad prints by adding or leaving out fresh sulphite of sodium.

This once more shows how very important it is to use only the very purest sulphite of sodium when making up developers. Sulphite of sodium is an inexpensive chemical, and there is no reason why any other kind but the very best should be used for photographic purposes.

It is a known fact, furthermore, that very pure sulphite of sodium may, in time, transform itself by oxidation into sulphate of sodium, the latter being entirely in-

active for photographic purposes. This oxidation occurs very often during the process of drying. This may be one of the reasons why so-called "granulated" or "desiccated" sulphite of sodium contains usually a larger percentage of sulphate than the crystallized sulphite of sodium; but any sulphite of sodium, even the pure variety, is liable to undergo the same oxidation unless it be kept in very well stoppered bottles or tightly closed tins so as to exclude the free access of air.

LABORATORY OF THE NEPERA CHEMICAL CO.,
Nepera Park, N. Y.

August 4, 1897.

THE ENAMEL PROCESS ON ZINC.

BY COUNT VITTORIO TURATI.

[Translated from the Photographische Correspondenz in the British Journal of Photography.]

AFTER the American enamel process had become so deservedly popular, and had been worked out by experts upon copper in its various modifications (fish-glue, Cologne glue,[1] metagelatine,[2] etc.), attempts were soon made from many sides to adapt the process to the cheaper metal —zinc.

The difficulties standing in the way of the process upon zinc were to be found principally in the fact that the structure changed and became crystalline at the temperature necessary for burning in the glue picture, and consequently good results were not attainable with the usual etching processes. To avoid this difficulty it was necessary to produce a film of enamel upon zinc at a lower temperature, or to find a modified etching process that would properly etch the zinc in its altered condition. A number of attempts were made in both directions.

In addition to the published enamel processes, the so-called cold-enamel processes were offered for sale from various quarters; but, notwithstanding their extravagant advertisement, they were not adopted permanently in practice, as it is impossible to attain the resisting power of the burnt-in enamel by any cold process.

[1] Valenta: Photographische Correspondenz, 1895, p. 339.

[2] V. Turati: Photographische Correspondenz, 1896, p. 101.

The first publications relating to the enamel process upon zinc and its difficulties were by Wilkinson, in 1893,[1] and W. Sicker, in 1894.[2]

Husnik[3] recommended a primary etching of the zinc with—

Nitric Acid	1 part.
Alum	1 "
Water	20 parts.

The plate was then prepared as usual with bichromated glue, the image stained with an alcoholic solution of dye, and etched after burning in.

Another proposal was to pour a stained solution of shellac (in chloroform and benzole) upon the image, and, after ten minutes' washing, to develop with a wad of cotton-wool. Husnik remarks: "The heating of the zinc plate is avoided, but the etching is coarser."

Concerning the action of dyed resinous solutions further detailed account is given below.

Liesegang[4] recommends a somewhat tedious variation of the etching process, while it should be sought to hasten the process by etching for the shortest time possible.

[1] Elder's Jahrbuch für Photographie, 1894, p. 490 (British Journal of Photography, December, 1893, No. 1754).

[2] Atelier des Photographen, 1894, p. 702.

[3] Photographische Notizen, 1894, p. 164.

[4] Photographisches Archiv, 1894, p. 374.

Another formula[1] contains chrome alum, but is otherwise the same as the process upon copper.

The *Photogram* (1894, July and following numbers) treats of the zinc-enamel process, but does not contain much that is new. It attributies failure to impurities in the zinc, namely, presence of lead.

The *Photographische Correspondenz*, 1895 (pp. 57 and 106), contains a polemical treatise upon the zinc-enamel process, but no special technical directions are to be gathered from it.

Macfarlane Anderson[2] describes a new idea. Resin is saponified, and the aqueous solution neutralized. He adds some of this solution to the preparation of fish-glue, and a small amount of heat is then sufficient to produce a resinous resist.

Hyslop describes a similar process dependent upon fine resinous emulsions.

However beautiful all these processes may appear at first sight, they are of little importance in practice, as the writer has proved by a large number of exhaustive experiments in these directions. It was found possible, even with plain chromated resinous soap, to obtain an image that adhered with gentle heat and afforded complete protection against acids.

Colin Campbell[3] recommends instead of fish-glue (which requires so high a temperature in enamelling that the zinc is modified) other substances that give a good enamel at a lower temperature; these are obtained from aquatic plants and seaweeds.

H. Müller[4] published practical experiences with these substances (carrageen moss), and they gave him good results.

G. Fritz[5] published in a paper, read before the Vienna Photographic Association in 1895, his experiences of the zinc-enamel process. Preparation, printing, and development present nothing new in comparison with the enamel process on copper, excepting that 25 per cent. more water is used for the coating, because, according to the author, zinc is more porous in comparison with copper, and does not take the glue as well; but, in burning-in, G. Fritz does not go above 150° C., at which temperature the dye disappears and the film turns yellowish. At this temperature enamel is not formed (fish-glue enamel requires a temperature of 280° C.; and the color then turns to chocolate-brown). For this reason a modification of the etching process is also requisite. Therefore, according to the image, the etching is from three to five minutes with 5 grammes of nitric acid and 400 grammes of alcohol —40 per cent. The plate is then inked up and immersed for about five minutes in a 2 to 3 per cent. aqueous etching bath, and finally for two to three minutes in the first alcohol and acid bath. The process takes from thirty to forty minutes, and is said to give faultless results. The alcohol in this process plays the part of a protecting agent to the glue film, which is easily attacked by water.[1]

Otto Müller[2] published in July, 1895, his experiences of the zinc-enamel process. His method of preparation was the same as above, excepting that Müller used fresh instead of dry albumen. The development is carried out after coating with a stained solution of resin in chloroform and benzole.

The solutions of resin which we have already met with in a process by Husnik, as described above, serve the purpose of forming a resinous permeable covering to the glue print—that is to say, the watery developer has to make its way to the glue

[1] Inland Printer, 1894 (July number).

[2] Anthony's Photographic Bulletin, 1895, p. 106.

[3] British Journal Photographic Almanac, 1895, p. 716.

[4] Photographische Correspondenz, 1895, p. 388.

[5] Ibid., p. 224.

[1] The same process is described in Anthony's Photographic Bulletin, 1895, p. 336.

[2] Photographische Correspondenz, 1895, p. 387.

by passing through the resinous film, at the same time dissolving the particles of dye. The unexposed glue then begins to swell and breaks up the superimposed layer of resin, which has become friable, and it is then gradually set free by the watery developer. Gentle friction with a wad of cotton-wool facilitates the operation. The completely developed picture consists of insoluble glue with a coating of resin, and by gentle heating (to the melting point of resin) they are united to form a skeleton with protective capacity.

As far as the writer knows, the use of these stained solutions of resin was first published by E. Vallot.[1] He used a solution of asphalt and methyl violet in ether.

The process, however, is considerably older, and was formerly used by the writer in an unpublished process (albumen-bitumen), and likewise in connection with the ordinary chromated albumen printing process on zinc. It is not easy to adjust the proportions of the solution, but the following formula gave excellent results:

Methyl Violet . . .	3 grammes.
Syrian Asphalt . . .	10 "
Chloroform, dissolve in .	200 c.c.

To this is gradually added benzole, 400 c.c., perfectly free from water (the water to be removed, if necessary, with calcium chloride).

Let the solution stand for forty-eight hours, filter, and replace the evaporated chloroform with about 25 c.c. more. By following the instructions exactly a solution is obtained that flows admirably, does not produce lines, and dries at once with a brilliant homogeneous surface.

If we summarize the variations in these processes we have:

1. *Alteration of the zinc surface by primary etching.* The plate is roughed, to make the film adhere more firmly.

[1] "A new heliogravure process by means of albumen and bitumen."—American Annual of Photography, 1893, p. 40.

2. *Hardening of the enamel film by incorporating resinous substances.* These are either added to the solution or applied as a film after printing. In both cases the hardening is effected by gentle heat (melting point of resin).

3. *Hardening the film of glue by tanning.* The use of chrome alum, tannin, formalin, alcohol, etc., sometimes present in the coating solution, and sometimes in the acid. Variations of this kind have been thoroughly tested in great number by the writer, and they are not sufficient of themselves, but render other modifications of the process indispensable.

4. *The use of substances more easily changed to enamel.* Kinds of seaweed and aquatic plants, with which it is possible to enamel at a lower temperature.

5. *Modifications of the etching process.* The use of etching fluids that do not too strongly attack the slightly enamelled glue;[1] and methods of etching that will smoothly etch altered, crystalline zinc (in high-temperature enamelling). Concerning this last method, see following full instructions.

In the years 1895 and 1896 additional further studies were made in relation to the zinc-enamel process.

The writer has already pointed out that the chief advantage of the enamel process —richness of half-tone—depends upon the spreading of the etching[2] (similar to Klic photogravure) and the use of copper, as an excellent metal for etching purposes. Further studies have shown, however, that the same advantages are equally attainable with zinc. These studies led to the following results, which are all based upon a modification of the etching process.

A print upon zinc is burnt in till it attains an intense brown color, and is then

[1] Husnik recommended the use of bromine for this purpose.

[2] V. Turati: "Das Durchätzen bei dem Emailverfahren" (Photographische Correspondenz, 1896, p. 377).

treated with a weak solution of chromic acid, which has an oxidizing and slightly solvent action upon the zinc.

The basic, aqueous zinc salt, formed secondarily in the small hollows, by its insolubility gives the process a specific character. If the plate is taken out of a chromic acid bath, it appears to be scarcely etched. If it is now immersed in a nitric acid etching bath, the depth of the etching becomes immediately visible, owing to the solubility of the zinc salt. In case of need, this process may be repeated several times, but with practice it can usually be done at one etching.

To form a clear conception of the nature of the process, imagine, in place of the zinc, a crystalline cake of salt soluble in water, upon the smoothly polished surface of which water is allowed to act. The water dissolves first the smallest of the crystals, and, penetrating the interstices between the larger crystals, the surfaces of which it merely dissolves and washes, forms an irregular, rough, crystalline cavity. If the water is retarded in its action by the addition of slimy substances (gum, dextrine, etc.), and is likewise turbid (forming a precipitate during the solvent process), the fine crevices will be filled up, and the solvent action will proceed gently within limits, and the points of the crystals will have time to dissolve before the crevices open too far. The formation of the hollow will be rounder and smoother and very different from that obtained by using water only.

After a clear idea had been thus formed of the causes of the so-called "rough etching," it was possible to think out a modification of the ordinary process of etching with nitric acid—that is to say, a means had to be found of converting the process to a slimy, precipitating one. Slime may be easily produced by adding gum, etc., to the etching fluid; a precipitate may be obtained by various means, as well by chemical as by mechanical processes. The addition of various substances to the bath will produce a fine sediment during the etching, and the valleys of the crystalline mass may be filled up, while the summits of the zinc crystals are being dissolved. In this way the etching proceeds smoothly and regularly to its full depth.

This action may be easily demonstrated if smoothly polished zinc is heated to nearly melting point, allowed to cool, and then submitted to treatment with various acids. By the use of a weak solution of chromic acid the zinc is etched, and at the same time the surface is covered with a precipitate of yellowish brown, basic zinc chromate. If this is wiped away, the etched ground is quite smooth.

With ordinary nitric acid a rough, coarse ground is etched; and, on the other hand, a beautiful, even ground if the above-mentioned slimy, precipitating nitric acid is used instead.[1]

[1] A process based upon this has worked admirably in the etching establishment of the author. F. Hemsath, of Frankfort-on-Main, has an agency.

RECENT PROGRESS IN PHOTOGRAPHIC OPTICS.

BY CHAPMAN JONES.

THE introduction of every new lens brings afresh to our minds the conditions that are most desirable in a lens and the degree of perfection attained. The stigmatic lens of Dallmeyer, with a maximum aperture of *f*/6, forces these subjects upon our attention at the present time. It is easy to sum up what is wanted in a photographic objective—a flat field, equally good definition over the whole of it, a large aper-

ture, and a sufficiently wide image-angle. The older types of lenses gave wide enough angles and large enough apertures in different instruments, but they did not combine sufficient of these properties, and of the most desirable kinds none gave a flat field, and all showed a very obvious falling off of defining power toward its outer parts. The modern types of lenses combine these properties to a greater or less extent, but so far as our experience goes none to so great an extent as the *f*/6 stigmatic.

The foreign lenses introduced during the last few years are all constructed on similar, though of course not the same lines, and some English opticians have produced excellent lenses of an analogous character, but the stigmatics and also the Cooke lenses involve distinct principles, differing from each other and also from the general type of the anastigmats. It is worthy of note that Mr. Aldis, of the firm of Dallmeyer, first calculated lenses of large aperture, and subsequently applied the same principles to a more generally useful lens with an aperture of *f*/6, and also that he took as his starting-point the portrait lens of J. H. Dallmeyer. This lens has not received the appreciation that we think it deserves, but the merit of the construction is further demonstrated by what it has been possible to develop from it with the aid of the resources of the Jena glass factory. Moreover, the tendency of the two lenses that are conspicuously of English invention and manufacture, the Cooke and the stigmatic, is toward the getting of perfection by comparatively simple means, employing three, four, five, or more rarely six lenses in the complete instrument, while the general type of anastigmats have rarely fewer than six, and attain further perfection by employing eight or even ten lenses. This matter, perhaps, is of little importance to the photographer; it does not concern him whether there are three or thirty elements in his lens so long as it performs satisfactorily and does not cost him too much. But it is very different to the optician, even if cost be left out of consideration. The simpler the construction the less room there is for errors of manufacture, and the more power remains in reserve for further improvements when they are desirable.

In saying that in our experience the *f*/6 stigmatic surpasses previous lenses in its performance we may, perhaps, be misunderstood. There are lenses with an equally large aperture, but they generally do not include so wide an angle. Others include an equal angle, some, indeed, a larger angle, but they have not so large an aperture. Some, perhaps, have very nearly the same aperture and image angle, but not so flat a field. It is in the combination of these properties that excellence must be sought for. There has been no improvement in the defining power of lenses in the middle of the field since the earliest times of photography, unless reference be made to special color work. And improvement here, if it were possible, is not necessary, for the definition given by good lenses of the old kinds far exceeds what it is possible to reproduce by any photographic process. The writer has a wide-angle symmetrical doublet of eight inches focal length, and with a maximum aperture of *f*/16 that gives what may well be called perfect definition with its full aperture over a field with a diagonal measurement of two and a half inches. This does not refer to defining power good enough for landscape work, for this lens will cover a 10 x 8 plate with its smaller stops, but to a critically sharp definition of a test-object that shows no falling off when magnified ten or more diameters. This old lens, so far as this aperture and field are concerned, cannot be beaten by any other we have seen, and for practical purposes it may be said that it is impossible to improve upon it. Putting on one side, as stated before, special color work, the aim of photographic opticians dur-

ing late years has been to enlarge this field of critical definition without reducing the apertures, or to enlarge the aperture without reducing the field, or, indeed, to enlarge both the aperture and the field. The earliest anastigmats were a considerable improvement, the double anastigmats went a step further, and so progress has been made. The *f*/6 stigmatic has brought us to a position that we may well ask whether it is worth while to try to go further.

It is sometimes difficult to decide, especially for other people, whether, taking all things into consideratton, it is better to buy a modern lens or one of the older types. There is no doubt whatever that in some cases the best of the modern lenses is the cheapest, though it may cost more. But if one's idea of perfection in photography is the getting of a picture moderately sharp in the middle, with increasing unsharpness ("fuzziness" is a less complimentary term) toward the edge, and with dark corners, while the image angle included is only moderate, then all stigmatics, anastigmatics, platystigmatics, Cookes. Collinears, and the like, must be avoided. If, on the contrary, one wants sensibly equal definition over the whole plate, and not to be restricted to the use of small stops, and the focal length of the lens is not to be very long as compared to the dimensions of the plate, then the modern lenses must be looked to. The question resolves itself into one of covering power, and this cannot be ascertained from the maker's lists. One judges of the performance of a Paderewski or a Joachim on the one hand, and of a young lady fresh from school on the other, from very different standpoints and in very different moods. And just so a lens of modern type is expected to perform after the manner of the class to which it belongs, while the shortcomings of the older instruments are regarded leniently and their merits exaggerated. There is no practical unit of defining power except, perhaps, for the middle of the field, and here it is not wanted, for we are not speaking of inferior lenses that a reputable optician would be ashamed of. "Covering power" may mean anything, and we have known cases where the maximum circle of light with a small stop, and the lens focussed for parallel rays, would not include the dimensions of the plate that the lens was advertised as able to cover. Leaving such extreme cases out of consideration, an example taken at random will illustrate the point. A half-plate stigmatic of seven and a half inches focal length covers a half-plate better than a 12 x 10 triplet of sixteen and a half inches focal length covers a 5 x 4 plate, taking both at the same aperture. Now this triplet is an excellent lens, but if exception be taken to it that it has been superseded by the rapid symmetrical doublets, we may say that a lens of this last kind of thirteen inches focal fength is with equal aperture about equal in covering power to the triplet, and all these lenses are by firms of the highest reputation. Covering power, as applied to the older lenses, referred to the size of the plate that it was generally most convenient to use them for, and if good defining power was wanted, small stops had to be used, and definition had, so to speak, to be coaxed up to what was wanted. But the covering power of the modern lenses, while also referring to a certain extent to the plates that they are practically most generally suitable for, gives an indication of the area over which they will give good definition without stopping down or other coaxing. Of course, this "good definition" is a vague expression.

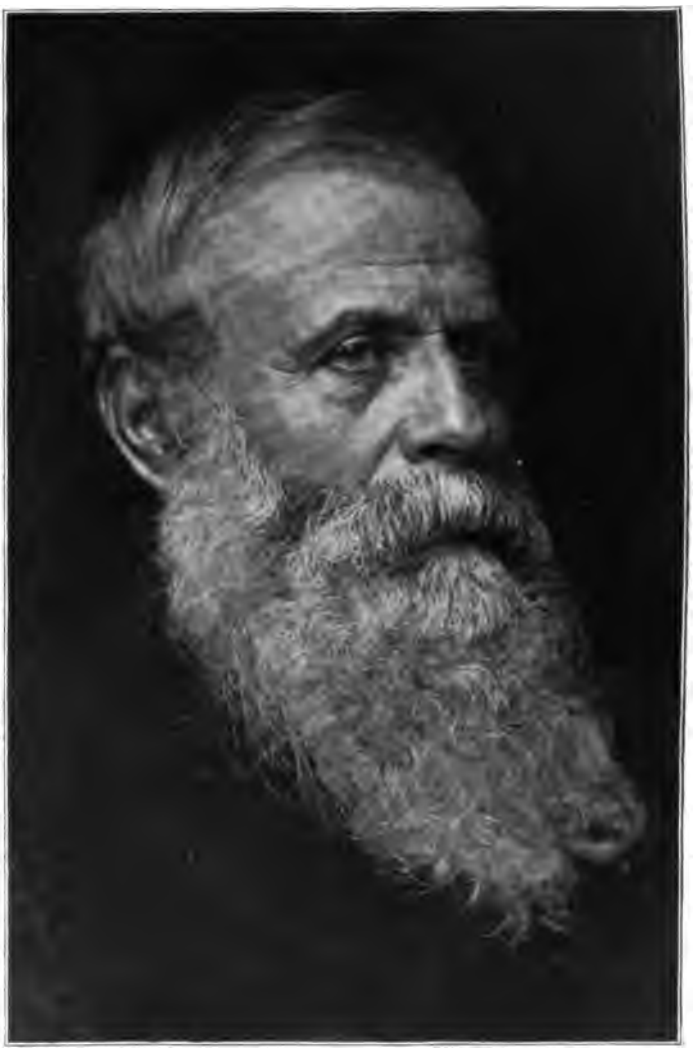
In this, therefore, everyone is a law unto himself, and "covering power," by whomsoever stated, can only be considered as comparable in different cases when determined by the same individual.—*Photography.*

J. E. & A. J. Rösch *St. Louis*

A PRIZE PICTURE FROM CELORON

LIGHTING AND POSING

BY C. A. ZIMMERMAN.



H. W. Minns, Akron, O.

A PORTRAIT.

[The subjoined address, delivered before the Convention of the Northwestern Photographers' Association, held at St. Paul, August 3d to 6th, is specially commended to our readers as an able setting forth of the aims, possibilities, and conduct of portraiture as a profession. Mr. Zimmerman has been prominently identified with photography and art in the Northwest for almost fifty years. His words are therefore valuable to the younger workers as the expression of the mind of a man who has followed portraiture through all its diverse phases for half a century, and which still

remains sufficiently elastic to be in close touch with the new movement spoken of as the renaissance.—ED. W. P. M]

THE subject of artistic lighting and posing has been assigned to me, and for many reasons I feel a good deal of reserve in attempting to give you my views upon such extremely difficult subjects; but as we are a class in photography, and as we are all students and presumably studying upon similar lines, I will attempt it, merely asking your indulgence and attention. It is quite a different matter between being personally well seized of a subject and being able to present it logically and well to your listeners, and the difficulty is not a bit diminished when you are unused to such a public effort, and also when this has to be done, as in this case, before well-advanced fellow-students, veteran photographers, and before a highly enlightened and, therefore, severely critical director of one of the first art institutes of the country. I allude to Prof. A. H. Griffith, of Detroit, whom it is our good fortune to have with us.

To be from childhood deeply imbued with a love of nature, painting and art may be and is no doubt a good foundation for photography; but to be denied its exercise by the irony of fate, and to be permitted to quench the thirst only at the spring of photography, with its fainter artistic possibilities, is a cross that perhaps is shared with me by a number in this audience.

While under the terms of artistic posing and lighting—I do not understand sensational work and methods—I am impelled to construe it to mean work upon advanced and accepted lines, such as the educated public is eager for and demanding when it has the understanding and refinement to do so. We are all, perhaps, too familiar with the ordinary methods of conventional photography to make it necessary for me to include this in the limits of a short paper, and if some are disappointed at what I have to offer the blame must rest with me and not on the selection of the subject.

The public to-day is severely critical of our art, made so through the education of the eye and greater familiarity with photographic processes, also through elbowing with the prolific and ever-present amateur, whose prying and pushing causes many a bright professional to exert himself. All classes are being schooled by the nature and scope of the illustrations of the periodicals, nearly all of which are based on photography. Our clients and patrons are treading upon our heels, and we must not allow them to overtake us, or we are sure to be outstripped and turned down.

I realize, however, that in the bread-and-butter struggle you cannot always do all things well, and that often the nature of the material or subject is responsible for the result; nor is the education of the sitter always abreast of your own. I am aware, too, that the wolf must be kept from the door, and it is perhaps true that many have heard his snarling since the financial stress of '93, and, through fear, changed the methods and the quality of the output of their studios. It is certainly time to call a halt when the cheapness of our product is urged by us as its main recommendation; besides, the sun of prosperity, though still quite low upon the horizon, is surely rising, and the East, toward which many an anxious glance has been cast, is to-day beginning to glow in its rays.

The more or less successful imitation of nature is by common consent styled art, and the imitator the artist. It is extremely distasteful to many persons to hear a photographer alluded to as an artist; in fact, it is vigorously denied by some that he has any right whatever to the title. This is not the time nor the place to take up the discussion, but it will shortly be seen that some art must be studied and employed in the production of good work. Were we and

the public less critical this would not be the case. The educated eye will not tolerate a really bad picture, for it imparts a positive pain. It matters not if the fault be in the matter of color, composition, light or shade. For this reason it behooves us to send out work that will appeal to the eye or educated taste.

An ordinary and poorly composed picture suggests a map or chart; it is not very difficult to make a so-called map of a subject, for it can be done in a mechanical way and almost to rule, and for the purposes of reference may be quite sufficient; but this is not to be confounded with a crude artistic effort, leading as it often does to a higher and better result.

W. Kuebler, Jr., Philadelphia.

PORTRAITS

There is another and a very important side to this question which cannot be ignored. It is the money values.

Commercial or mechanical photography has a fixed and usually a rather moderate price. You can turn it out by the inch, foot or yard. You may finish it skilfully, place it temptingly upon a good mount, and it is still what it was born to be. The work of the true artist has no fixed price; far from it; his best production, appealing as it does to a higher sense, has a value independent of its subject, its incident. It is often the manner, the method of its execution, for it discloses the very soul of the master, and it therefore swings into line with other recognized ideals and becomes immortal.

In no captious spirit, but at the risk of offending some that may be viewing their own work with satisfaction and complacency, but still more in the interest of such as are willing to excel, I am impelled to make some comparison and remarks upon the work and workers of to-day, of which I am one. I hope, moreover, that my words will not be interpreted as strictures or thorns without roses. I believe that if accepted in the right spirit, pondered over and applied, much benefit may result. I am sincere when I say that I would like to see more originality and less similarity in what we consider the average work of the day. That there is a great similarity in the results none will deny, for you have but to glance about you. What is the cause of this similarity? Is it not, I ask you, because we are working upon the same levels and in certain grooves? We are striving apparently under the same incentive. We use the same methods and materials, the same tiresome and conventional poses, the identical lighting, backgrounds, tones, chemistry, and skylight. Is it to be wondered at if the work seems turned out of one skylight or studio?

It is almost a relief, pardon me, and it certainly is a study to pass through a gallery of paintings by the best modern masters, whom we can certainly accept as a standard for study and comparison. We are at once struck by the simplicity, naturalness, and unconventionality of the poses and the selection of the lighting. We are also often struck with the beauty of a photograph made by some amateur, with perhaps primitive methods but apparently much thought and originality, because it is, if I may use the term, "unphotographic." And if we are honest with ourselves we would often wish to attain as artistic a result.

Perhaps in outlining the situation, in which you may or not agree with me, I may have indicated a direction in which we can look for the real remedy, namely, a change when our work is to be done on the better lines, for I am aware that it cannot always be in that direction. If we glance briefly at the methods of the painter (and I trust I am not tiring you with such frequent references to our accepted standard) we may evolve a clear understanding of the requirements. In the designing and completion of a picture the artist endeavors to secure the essentials of a good result. What are these leading essentials? I answer, they are usually composition, color, contrast, harmony. I trust these terms do not strike this class as severely technical, and therefore inapplicable to us. I think, if you bear with me, you will see that because they are applied daily to the work of a painter it does not follow that their study will be useless to us.

Composition is the proper and pleasing arrangements of the parts of the picture, whether it be in the placing of persons or objects with reference to each other and to the whole, or in the proper arrangement of the lights, shadows, and lines.

There are lines in nature which convey the idea of strength or support as well as beauty. The most agreeable are, generally, curves. Those approaching nearest to a circle or an oval are not the most beautiful, because they suggest a mechanical

figure which the eye is not slow to perceive. Those concerning the artist-photographer are such are formed in the lights and shadows of the folds of drapery, dress, and clothing, and in the arrangement of the limbs and hands of the sitters, or in the accessories. In a landscape they are formed in the very nature of the clothed object in rest, and are easily recognized, because in nature they always form naturally and are continually before us. The droop of the willow, certain poses of the head, hand, and limbs express them well. Lines of unrest are seen in abrupter angles and direction. The zigzag lightning, the crest of the wind-tossed wave, and again the excited action of the body, as indicated by the hands, arms, and limbs, and communicated to form in drapery or clothing.

Herbert E. Watkin, Scarborough, Eng.

AN ENGLISH GIRL.

the sweep of roads, lanes, rivers, clouds, and trees. We can also concern ourselves with lines suggesting repose, quiet, unrest. The study of the best statuary, as well as good engravings, or accepted masterpieces, will be of great value to an earnest seeker. Lines of repose are such as are formed by

As we have not the chromatic scale of the color-box, I will ask you to substitute

for the next essential, color, the word "tone." I do not refer to the color imparted to your print in the toning-bath, although a good tone has much to do with the final result.

Tone is a value, and is imparted to your picture through correct management of the lighting, which discloses the effect of your composition. Tone, according to Professor Platt, a reviewer of Ruskin, "is the exact relief and relation of objects against and to each other and the perfect relation of the shades to the principal light of the picture."

Contrast, the next essential, has a familiar ring, though we are apt to apply it too much in the chemistry of the art in the brilliancy of the printing-room result. To the proper use of contrast, whether it be in the direction of color, tone, or light and shade, or in the disposition of objects, we owe the agreeable quality of brilliancy and variety.

Brilliancy overdone often leads to harshness, and variety overdone to littleness. A lack of both to flatness. Variety is said to be the spice of life; why should it not be the spice (if it require it) of our picture? To produce this quality we must draw upon our understanding of all the above-named essentials, and upon our ability to employ them to the best advantage. The chief lights and shades of your picture are seriously affected if inaptly surrounded by others of almost equal intensity and disturbing.

Harmony is secured when you have well applied the best principles of the other essentials—when there are no errors in the composition, no confusion of lights or bad arrangement of lines.

There are no fixed rules for lighting a head, the figure or figures, or a landscape. In the studio it will depend largely on the expression it is desired to give of or to the subject, or it will depend upon the face or characteristics of the sitter, supposing, of course, that the operator or artist has the ability to select the best pose or light. When it comes to a landscape one can only wait, study, and choose, for the scene is, of course, set, and the light, to a certain extent, is arbitrary, but, as it is changing with the sun's position, there will certainly come a time when the picture can be made more advantageously than at random. In the studio and under the skylight it is different. The operator can have full swing, either in the selection of pose in the subject and in lighting.

In grand and historic portraiture we note the endeavor, on the part of the artist, to establish a pose and lighting, consistent generally with a suggestive likeness or resemblance to the subject, be it king, queen, emperor, senator, plain citizen, or lovely woman. The artist, presumably basing all his later work upon his early study from life or the cast, arrives easily at pose and lighting, blocking out masterfully, as it were, the lines and shadows which express form, character, and individual traits. The photographer with equal advantage, but less learning and early study up to this point, too often softens, flattens, flatters, and ends by producing what I once before alluded to—a map or chart of his subject. I have said that there are no fixed rules in artistic lighting; certain causes, however, produce certain effects. A small opening of skylight produces a direct light with much positive shadow, much brilliancy, some hardness, and but little half-tone. Strong light obliterates details in the light, and destroys their delicate modeling, without which there is no good result. We are all aware that it is comparatively easy to preserve detail in the shadows of half-tones, but it is a far different matter to do this in the lights of the picture. In the interest of naturalness alone we must concern ourselves in producing the effect of nature. A random arrangement of the lights and

shades is not according to nature. Let me attempt to show this.

As we glance at a landscape or at a person or group of persons, the eye is nearly always attracted to some one object or form in the view, and we shall call this the principal object. In this object you will perceive the dominant or high light and deepest shadow, as well as the intermediate tints, which go to make up a harmonious bit. As long as the eye does not roam about, all other objects grouped about this principal object appear less distinct, but still in your vision. The lights and shades upon these secondary objects are not as distinct as those forming the principal object; therefore, if you are sketching a scene, and doing it truthfully, you will subordinate the minor objects. How is this done by the painter? By making the distance grayer, the lights and shades of the principal objects brighter and crisper, and painting the inferior objects less intense in color, less crisp in form, lower in

Herbert E. Watkin, Scarborough, Eng.

A PORTRAIT.

lights, not so deep in shadow; in other words, toned down. We have similar means at our command. You have the power to produce the principal light and deepest shadows with the intermediate gradations. You have also the power to leave out obtrusive accessories. You can suggest to receptive sitters a change in drapery or clothing in the interest of harmony and in artistic result, and you can, by artificial means, aided by the skill and intelligence of your printer, flatten out the too prominent lights of such portions of your picture as may require it.

subtle gradations of light and shade may be rendered with full value and effect. You ask what kind or shape of light does an artist prefer? He needs but a hole in the wall or in the roof or daylight out of doors. Photographers as a class have been wedded too much to certain kinds of skylight. There is no pet position or lighting possible in any skylight with the best workers.

You may be surprised to hear me say that almost the best study of lighting may be had upon our streets, lighted as they are from the top and lined by rather tall

W. Kuebler, Jr., Philadelphia.

PORTRAITS OF A CHILD.

The dominant or high-light of the forehead in nature is scarcely ever pure white; the deepest shadow on the human face seldom pure black. We too often render them so. The old wet plate in the hands of the best workers gave the relations of light and shade better than the early and primitive dry plate. This was not entirely the fault of the dry plate, the former being less sensitive than the dry plate of to-day, overlighting did not so much affect the result. This matter is to-day quite different, for with the plate of to-day and proper illumination, backed by the best chemistry of the dark-room, the most

buildings of non-reflecting tones or colors. It is here that the most varied effects of light and shade, and, therefore, of naturalness, may be seen and studied with profit. This may strike my best hearers as extremely strange. All that I ask is that you will give it a trial of one day, selecting, of course, the shadow side of the street, or that portion upon which the direct rays of the sun do not stream while you are inspecting the passing crowd. The effect of this street lighting is like a very high, side, or top-light, with much more diffusion. Early faulty lighting and crude chemical effects made retouching neces-

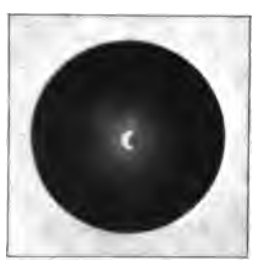
sary, and this was the case much more often than where the complexion or the lines in a sitter's face made it necessary. There is still too much retouching. Cut loose from conventional lighting; set out on a voyage of discovery under your own skylight; throw wide your skylight curtains; perambulate your sitter about the room, closely observing the depths of the changing shadows on the face. You will find by close observation and by careful change of position that lines and wrinkles, usually left for the retoucher, disappear. You may then be struck by the apparent flatness of the image, judged by your former method of lighting. At this point, by making an experiment in placing back of your sitter backgrounds of varying depths of light and darkness, you will presently be able in this, to you, peculiar light, to present a roundness and a brilliancy and a naturalness and a difference in favor of the method. A room-light is not a trying one, it does not bring out all your perfections or imperfections; nor does it accent the latter as the poorly managed light of the skylight does. Have any of you ever heard a photographer laboriously trying to convince a complaining sitter that one side of the face must be dark; that a heavy shadow must exist under the eyes, nose, or chin, or there could be no likeness? Have I made my points clear, or have I merely succeeded in tangling you up? Let me persuade you to study the subject.

OUR PICTURES.

THE pictures illustrating this issue of the MAGAZINE lead us into several interesting branches of photographic work. We believe that their variety, as well as their diversity of treatment, will make them at once acceptable and profitable.

W. R. Hasbrouck. Corry, Pa.

MOONLIGHT ON LAKE CHAUTAUQUA.



ECLIPSE OF THE SUN.

Photographed by S. E. A. VAUGHN, Arlington, Ga., July 29, 1897, 8.30 A.M.
Copyright by S. E. A. Vaughn, 1897.

To those to whom the ever-changing aspects of nature appeal as a fascinating field for the camera, Mr. C. C. Langill's "Sunset" offers many suggestions concerning the value of clouds and water in picture-making. It is a bold piece of work, the evanescent glories of the dying day being finely portrayed by the broad masses of light and shadow and the delicate concentration of interest where the sun dips behind the hills. Mr. Langill is widely known as a commercial photographer of uncommon skill, as evidenced by the examples of interior and architectural

photography which he has supplied in times past for the illustration of these pages. It is not so well known, however, that he is an enthusiastic disciple of art for its own sake, and we are glad, therefore, to present in this little picture his appreciation of the higher reaches of the profession which the necessities of life compel him to turn to utilitarian ends. Technically the print has an added interest as showing forth the capabilities of Rough Carbon Velox Paper, the latest introduction of the Nepera Chemical Co., Nepera Park, N. Y. There has long been a demand for a printing paper possessing the advantages of platinotype paper without its disadvantages; and, unless we are mistaken, it is adequately supplied by the paper used for the prints supplying our frontispiece.

The "Moonlight Scene on Lake Chautauqua," by Mr. W. R. Hasbrouck, of Corry, Pa., is offered as a memento of the Celoron convention. It gives us a glance at the pleasures enjoyed by those who participated in the convention excursion during that memorable week spent on the shores of Lake Chautauqua. Mr. Hasbrouck is an amateur photographer with only a few weeks' experience, a fact which he begs us to make known as an apology for any shortcomings observed in the picture.

J. C. STRAUSS.

Agreeably to our promise in the last number of the MAGAZINE, we brighten our pages with portraits of Mr. J. C. Strauss, of St. Louis, and his son "Charlie." These pictures should have accompanied our notice of the Strauss Studio when it appeared, but arrived too late for reproduction therewith. They speak for themselves, and are sure of a warm welcome from the fraternity wherever they go.

The portrait from the Grand Prize exhibit of Messrs. J. E. & A. J. Rösch, of St. Louis, engraved as an insert, represents very fairly the fine examples of portraiture shown at Celoron, which gained for Messrs. Rösch the coveted Grand Prize of the National Association. The original picture is from a 17x22-inch plate, printed on Aristo-Platino. The pose is characteristic and has been managed with consummate skill. We have no hesitation in pronouncing it to be the best piece of portrait work produced by these talented photographers, whose reputation in their profession is as high as it is well deserved. Other selections from their exhibit will be offered in *Mosaics*, 1898.

The group "Music Hath Charms," en-

graved as our second inset, comes from the studio of Messrs. C. M. Hayes & Co., of Detroit. The original is a 10 x 12 panel on celluloid, and is painted in sea-green by the carbon process. This made its reproduction a work of some difficulty, but the result is creditable alike to Messrs. Hayes & Co. and the engravers, the Photochromotype Engraving Company of Philadelphia. The picture is worthy of attention not only for its own good qualities, which are obvious, but as an example of a profitable class of work which may be drawn from the various social, artistic, literary, and musical circles found in almost all our cities.

The engravings from photographs by Mr. Herbert E. Watkin, of Scarborough, England, have a special interest for American photographers as representative examples of portrait work from an English studio of high repute in its locality. Until a few years ago Mr. Watkin was an amateur, but his love for portraiture brought him into the profession. Although he has had to fight his way amid severe competition, his enthusiasm and skill have already won for him a considerable degree of success, and his studio is one of the busiest in Scarborough, a fashionable watering-place on the northeast coast of England. Mr. Watkin is an earnest student and admirer of American professional photography, and we have had much pleasure in watching his growth during the past year or two. His trade is one demanding high-class work, and his work is largely printed in platinum.

"CHARLIE," SON OF J. C. STRAUSS.

Those who read the article on "The Renaissance in Portraiture" in the last number of the MAGAZINE will be glad to see the portrait by Mr. H. W. Minns, of Akron, Ohio, given on another page. Mr. Minns, judged by his work, may be justly spoken of as "one of the renascents." His work, as seen in the engraving, is characterized by its life-likeness, breadth, and the wonderful flesh tones which it presents. We confess that our sympathies are largely on the side of this new-old photography, and that its revival seems to us a hopeful sign of the times. It must be said, however, that the work of this school is not adapted to half-tone reproduction, and hence our engraving hardly does justice to the qualities of the original sent us by Mr. Minns.

Equally admirable in quality, but altogether of another kind, are the portraits of women and children engraved from photographs by Mr. William Kuebler, Jr., of Philadelphia, which we present in this issue. These pictures bring to mind the grand style of portraiture which in earlier days made Gutekunst, Sarony, Mora, and others famous. It is followed today by a few leaders, such as Falk, Stein,

Herbert E. Watkin, Scarborough, Eng.

SUNDAY AFTERNOON.

Strauss, and Landy. We record with pleasure the fact that among the hundreds of portraits sent to us during the past few years, few, if any, have equalled in brilliancy, crispness of modelling, roundness, and general quality the delicate originals sent by Mr. Kuebler to provide these engravings. We commend all to the attention of progressive photographers as worthy of thoughtful consideration.

DEMENY'S CHRONOPHOTOGRAPHIC APPARATUS..

FEW photographic inventions of recent years have been so universally exploited and appreciated as what are generally known as "animated photographs" or pictures representing scenes from actual life, with all their natural movement and effects. The making and projection of these pictures forms what is spoken of as chronophotography, an application of photography which had its birth in the familiar rotating tachyscope of childhood, afterward improved by the labors of Anschutz, and applied to useful ends by Muybridge, Marey, and many others. The perfecting of this invention is, indeed, one of the many remarkable works of progress of our time, providing as it does, a ready and efficient means whereby the life and scenes of to-day may be recorded for the instruction or amusement of those unable to witness the scenes in person or for those who shall come after us.

As is generally known, the *rationale* of chronophotography consists of the making, on a long strip of sensitive film, a series of consecutive instantaneous photographs representing all the instantaneously successive phases of movement or action in a scene. The instrument by which these photographs are obtained consists essentially of a box fitted with lens and shutter, or series of lenses, and containing a spool holding a length of sensitive film. This is unrolled by a crank or handle, passes the lens, and

is exposed, and is afterward rolled upon a second spool. From the negatives so obtained, positives are made upon a strip of film coated with a suitable emulsion. The positive or transparency film so obtained is wound on a spool and placed in a special projection lantern. Here it is unwound, and, passing behind the objectives of the lantern at an arranged speed, gives upon the screen a continuous and harmonious representation of the scene photographed, but in an enlarged form. Another form of "animated photography" is embodied in the instrument known as the mutoscope, in which the small photographs originally made are enlarged to about 5 x 7 inches, fixed in a circular holder in consecutive order as exposed, and successively presented to the observer in a portable box by the action of a crank turned by the person viewing the scene as he looks at the picture through an optical system similar to that of the stereoscope.

Among the chronophotographic instruments for negative-making for projection now on the market, one of the best is that devised by M. Demeny, the well-known French projectionist. By the courtesy of Messrs. Gaumont & Co., of Paris, we are enabled to offer a description of this apparatus to our readers. The peculiar advantage of M. Demeny's apparatus is that it gives original pictures larger in dimension than most of the others (the American biograph excepted), with all the concomitant advantages resulting therefrom for projection purposes and illumination. Thus this instrument makes it possible to give exhibitions of "animated photographs" with other sources of illumination than the electric light where this is not available, which cannot be done with originals smaller than those given by the Demeny apparatus. The Demeny pictures may also be enlarged to greater dimensions than are possible with others, fineness of detail and brilliancy of illumination being insured at the same time. They also offer a better perspective and truth of drawing

Section of film used for projection in Demeny's chronophotographic apparatus.

than is possible in the smaller pictures made with lenses of extreme wide angles; and they may be more easily and accurately colored by reason of their size.

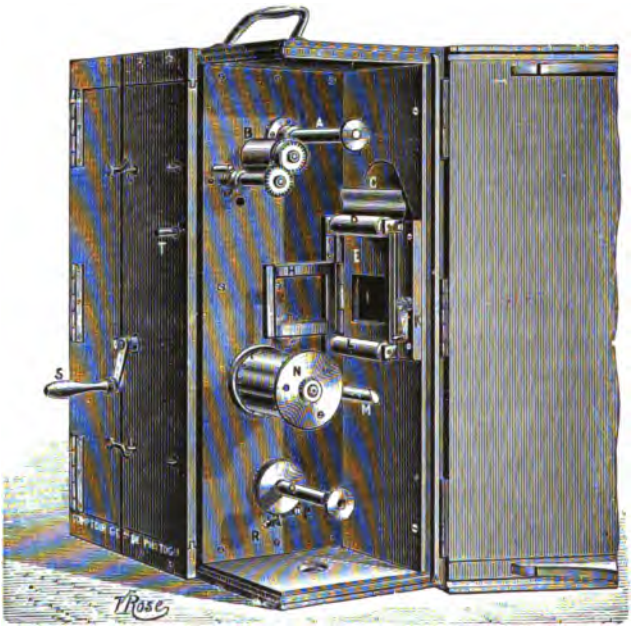
The mechanism of the projection instrument and its working will be readily seen by the subjoined diagram.

The bobbin, upon which the band of film has been previously rolled by the aid of a winder, is placed upon the fixed axis *A* (Fig. 1); a friction-roller drawer, *B*, composed of a cylinder covered with an india-rubber casing and driven by a gearing placed in the interior of the apparatus unrolls a given quantity of the pellicular band. This portion of the band engages itself between a guide, *C*, and a friction-roller, *D*, along a passage, *E*, lined with velvet, in which is found a rubber-frame, *H*, placed opposite the window *I*, and presenting an identical hollowing to that forming the opening of this window.

This rubber-frame, lined with velvet, like the passage, is movable round a joint adapted to one of its sides, and when the film has passed the frame is applied upon it, and it keeps it in gentle and continuous pressure by clasping in the spring-wedge *K* during projection.

After having passed under the frame, *H*, the film engages itself *under* the friction-roller, *L*, then also under the cam, *M*, then it is passed *upon* the dented cylinder, *N*, where, from there, it will go finally to roll itself upon the receiving bobbin previously placed upon the drawing axis, *O*.

FIG. 1.

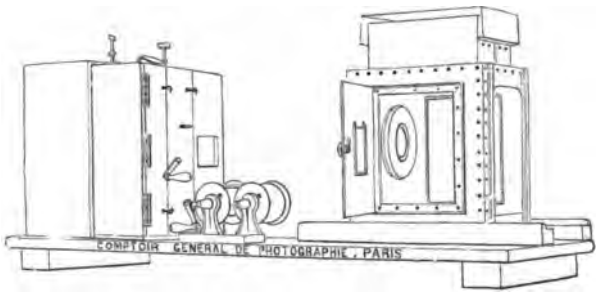


The projection instrument, complete, is shown in Fig 2.

By slight transformation and the use of special appliances supplied with the projection apparatus the instrument may be used for the making of negatives of any desired scene. Thus the Demeny apparatus is designed both for the making and projection of animated photographs, although the greater number in use are employed simply for projection purposes, the positive films being supplied in large variety as to subjects by manufacturers of the apparatus. A section of the positive film is given in

the accompanying engraving. On application, Messrs. Gaumont & Co., 57 Rue St. Roche, Paris, will be pleased to supply a booklet devoted to the manipulation of Demeny's apparatus, with the prices of films, etc., ready for use. At present, as we are informed, the demand for the apparatus is larger than the available supply.

FIG. 2.



THE NATIONAL ASSOCIATION.[1]

BY EX-PRESIDENT BELLSMITH.

MR. PRESIDENT, LADIES, AND GENTLEMEN: When our President requested me to speak on the needs of the Association, I hesitated about accepting the assignment, for the reason that the Association seems to be pretty well satisfied with the way things are running, and might not accept any suggestion for a change in good part. I am well aware that the great attraction and the greatest benefit derived from our annual conventions, are the competitive exhibitions. Certainly benefit should be derived from the careful study of the cream of the skill, thought, and intelligence of a whole year's work. But when we have to drive our members over to this meeting by closing the beautiful exhibition in the annex I begin to feel that, as an Association, something is wrong. We lack the conference feeling. We want to get together more, and see if we cannot make these sessions of more real benefit and greater interest. We want the members on this floor to take an active interest, to suggest topics of discussion, to bring here their difficulties and local business troubles and oppression. There is one suggestion I would like to make, and that is that there be a division in this body, as they have in the great commercial bodies of our cities—say the reds and the blues. In the matter of election, let there be two tickets in the field. You will find that this will bring in a friendly rivalry which will result in good.

If you have any business troubles, any grievances against anyone in particular; if you have anything that clearly could be legislated or helped in any way by the Convention here, it should be brought to our notice. In the matter of elections, our President appoints a nominating committee, and, as a rule, it goes. There is not the competition that I would like to see. I notice that in all large commercial bodies there is a line drawn somewhere. I think that we could draw the line here between the New Photography and the Old Photography.

I think if we could have two nominating committees, in this way we would get the very best men in the Association

[1] An address delivered at the Celoron Convention, Friday, July 16.

to be our officers. I would like to see more suggestions come from the body, not to come entirely from the Chair. Many times I have had people complain to me of things they objected to. One party said that there ought to be something done to stop this matter of department stores, where they are paralyzing the legitimate business of the photographer, putting it down to such a low figure they make pictures for less than they cost them. (Applause.) I think we could in some way put a stop to it, or anyway help those that suffer from it.

Last year I mentioned, I think, in my annual address, the matter of Sunday closing. I would like to see this done, and I tell you that we should take this matter up if we aspire to a respectable business profession. It is degrading to have to say that we have to work on Sunday in order to make a living.

These are just a few cursory remarks. I did not prepare anything formal, but I just want to leave the feeling that I would like the Association to take more interest in its affairs, and, if there is anything you want remedied, bring it before the Association and it will be given their attention.

PRACTICAL FORMULÆ.

The use of citric acid is suggested as a restrainer in place of potassium bromide when the modern developers—metol, etc.—are used. It is found that a 10 per cent. solution of citric acid gives greater power of restraint, and does not materially affect the duration of the time of development.

Platinum toning for matt gelatine paper:

Distilled (or cold boiled) water,	10 ounces.
Chrome Alum	50 grains.
Chloroplatinite of Potassium .	2 "

This bath may be used at once, and repeatedly, replenishing it when it refuses to tone with a little chloro-platinite solution. It tones very evenly. After toning the prints immerse them in a solution of 20 ounces of water, ¼ ounce washing soda. Rinse in clear water, and fix in a bath of hypo-soda 3 ounces, water 20 ounces, for ten minutes.

Double tones and foxy vignettes are caused by too rapid toning, failure to keep the prints moving during toning and too rapid action of the toning solution. To remedy these defects, keep the prints moving, and add 2 grains of sulphite of sodium to each 16 ounces of toning solution.

Frilling of plates can be effectually cured by the addition of a few drops only of formalin to the developing bath. Remember that formalin has an injurious effect upon the delicate tissues of the nostrils and eyes, and that a diluted solution is always preferable.

A developer for lantern-slides is given as follows:

A.	Hydroquinone . . .	100 grains.
	Metabisulphite of Potash .	50 "
	Water	10 ounces.
B.	Caustic Soda . . .	100 grains.
	Sulphite of Soda . . .	50 "
	Water	10 ounces.

For use, take equal parts of each.

Reducing over-printed proofs. Immerse the prints in a bath made as follows:

Cyanide of Potassium . .	5 grains.
Liquor Ammonia . . .	5 drops.
Water	1 pint.

As soon as the desired reduction is reached, wash prints in running water for twenty or thirty minutes. The illumination of the shadows of your picture is fully as important as the preservation of values in the lights.

C. M. Hayes & Co. *Detroit, Mich*

"MUSIC HATH CHARMS"

NEW BOOKS AND NEW EDITIONS.

La Photographie Instantanée. By Albert Londe. Published by Gauthier Villars et Fils. 55 Quai des grands Augustins. Paris. Price, 2 fr. 75c.

This substantial little volume of 212 pp., illustrated, is a fairly complete hand-book for workers in instantaneous photography, and treats of its subject in a very practical and useful way. Its popularity is seen in the fact that this is the third edition of the work.

Artistic Lighting, by James Inglis, and *At Home Portraiture*, by F. Dundas Todd. Published by the Photo. Beacon Co., Chicago. 48 pp., with numerous illustrations in collotype. Price $1.

Those who recall the interesting articles under the above titles appearing in *The Beacon* during 1896 and 1897 will welcome their appearance in book form with new illustrations. The volume is one which every portraitist should read and re-read, filling out its condensed instruction by practice along the lines marked out.

Eder's Jahrbuch für Photographie und Reproductionstechnik, 1897. Published by Wilhelm Knapp, Halle A. S., Germany. Price 8 marks.

Dr. Eder's wonderful year-book seems every year to become more attractive in illustration and subject-matter. The papers appearing in its pages are from men whose names are famous for invention, progress, and exhaustive experiment, and the progress of the year in photo-mechanical work, as well as photography, is fully covered. The illustrations comprise examples of the best reproduction methods of the present time.

Specimens of Collotype and Photogravure. We have received from the establishment of F. Bruckman, Munich, a collection of selected examples of collotypes, photolithographs, imitation photogravures, and photogravures. These are as fine in their way as any we have yet seen produced here or abroad. The specimens of color-printing are, however, not equal to the best American work in half-tone in color.

The American X-Ray Journal is a new illustrated monthly (we believe the first in its field) published at St. Louis, and "devoted to practical x-ray work and allied arts and sciences." From its advertisement pages we learn that an "x-ray studio" has been established in New York City, and that the M. A. Seed Dry Plate Co. has just introduced a special x-ray plate.

THE NEW ENGLAND CONVENTION.

THE first convention of the Photographers' Club of New England, held at Copley Hall, Boston, July 28th and 29th, proved even more successful than was anticipated by its energetic promoters—Mr. George H. Hastings, Ferdinand Flodin, and others. It was attended by hundreds of photographers from the New England States. The art display recalled the fine exhibition of the National Association held in 1889 in Boston, and all who attended were enthusiastic over the arrangements made for their entertainment and profit.

The first session was called to order on the morning of the 28th by President Hastings, who said: "For many years the need has been felt of New England photographers banding themselves together for mutual improvement and benefit. This we have at last accomplished in this our first convention, which I hope is but the beginning of a new era of progress

for the photographers of New England. In no way can we so well judge our own work as to see it by the side of others, and careful study and kindly criticism will incite us to better work than before."

Colonel William Olin, Secretary of State, then extended a very happy welcome, and after a short business session the meeting adjourned until 2 o'clock.

At the afternoon session Pirie MacDonald, of Albany, gave an address in which he made a strong plea for more originality in work, deprecating the sentiment that the photographer should follow the art lines of the painters unless he should have sufficient training in that application of art and his own profession to keep him from error. He ridiculed the idea of attempting to copy the old masters' effects in portraiture, and urged that the principles on which the old masters worked are what the photographer must strive to know rather than mere facility in imitation. He also referred to the need of a school of photography, as outlined in his address at Celoron. Mr. C. Hetherington, in one of his characteristic "talks," seconded all Mr. MacDonald had said, and spoke of the advantages of union among photographers as contributing to their growth. Prof. John Ritchie was then introduced and gave an interesting lecture on the usefulness of photography in the sciences. He exhibited examples of lunar, stellar, and spectrum photography, x-ray pictures, etc. His address was warmly applauded.

The exhibition in connection with the convention was thrown open to the public in the evening, and the privilege was widely appreciated. The visitors were outspoken in their praise of the work shown. The Rösch complimentary exhibit of portraits, as shown at Celoron, was the centre of attraction. The exhibit of Pirie MacDonald, likewise complimentary, also won universal admiration. Gustave L. Hurd, of Providence, showed six portraits of old men, from untouched negatives, which revealed an enviable degree of capability in this difficult class of work. Some excellent landscape pictures, printed on platinotype paper, were exhibited by W. G. C. Kimball, of Concord, N. H. In this worker's portrait display was a fine character portrait of "Rip Van Winkle," which attracted considerable attention. E. F. Fuller, of Haverhill, Mass., secured the Hastings cup for two large genres entitled "Night" and "Medea." This latter presented a semi-nude figure fairly typical of the barbarous Medea of the old mythology. H. Shervee, of Worcester, Mass., exhibited a collection of large portraits possessing considerable merit. H. H. Pierce, of Providence, made a capital display of portraiture, one picture of an old man's head being awarded "special mention" as the best piece of work shown at the convention. C. W. Hearn, of Boston, also exhibited a few choice portraits, showing much artistic feeling and skilful technique. The honorary members' class in portraiture, open to all photographers outside of New England, contained many grand examples of work, the prizes falling to Messrs. Rösch Bros., Dudley Hoyt, and George Steckel.

Second Day—July 29th.

The first speaker at the morning session was Mr. George G. Rockwood, of New York, whose address contained many instructive points, and was received with evident pleasure. Among other things he said:

"I should like to venture to give you a few remarks on posing—that is, on the art and methods used in posing a human form for photographic portraiture. In the first place, posing depends on principles, not rules. It is to be understood that every method employed is designed to express graceful lines, not merely a correct like-

ness. My method is to analyze the characteristics and temperament of each individual subject. However plain a subject may appear, there is always some possible view of the face and form that is favorable.

"Backgrounds and accessories should always be subordinated to the subject. As a rule, the light should fall from an angle of 45°, and be, as nearly as possible, northern light, in front of the subject.

"Pose means, to a degree, balance. We should pose the head, for instance, so that it will not seem to be 'falling off the body,' or 'out of the picture.' Preserve the perspective of the head. The camera should be usually on a level with, or slightly lower than, the head of the subject. In taking the long head, high brow and small body, which belong to certain types of American women, a low camera is disastrous. The length of the face is emphasized, distorted, and made to appear out of proportion with the body. The round face is the simplest to deal with. All form, we can say, is defined by light and shade. Therefore, light concentrated on one spot is likely to emphasize that spot at the expense of another. Study the faults and graces of your subject. Try to conceal the one and bring into prominence the other."

As an afterword, Mr. Rockwood called attention to a portrait published in a recent issue of a prominent photographic journal. He held the picture up as something to avoid in posing. The picture represented a young girl in summer dress and hat, holding flowers posed against an oriental background, with palms and a Polar bearskin.

After this address officers were elected for the ensuing year, as follows:

W. H. Partridge, Boston, President; H. A. Kimball, Concord, N. H.; H. H. Pierce, Providence, R. I.; G. M. Bolton, Rockland, Conn.; J. C. Howe, Brattleboro, Vt., and Mr. J. H. Lamson, of Portland, Me., Vice-Presidents; Mr. B. F. Kenney, Boston, Secretary; Mr. W. H. Robie, Boston, Treasurer.

At the afternoon session George B. Bassett, of Springfield, gave a practical demonstration of posing and lighting. The model was a lady in evening dress—the wife of a Boston photographer—who kindly consented to pose in the absence of a professional model. As Mr. Bassett posed criticisms and questions were received from the photographers in attendance, and several interesting discussions took place.

"In cabinet pictures," said Mr. Bassett, "the figure should occupy only three-quarters or four-fifths of the picture. As a rule, accessories furnished by the trade are not exactly suitable for the best work. For instance, the chair is usually too narrow and too deep to allow good perspective. The greatest economy you can practice in the photographic business is to spend your money for conveniences in your work. Try to make the mechanical side of the work as simple as possible."

Mr. Pirie MacDonald next took the stage, and made a few valuable suggestions on the posing of hands. "There are," said he, "more bad hands in photographs than in the courts. With great width you must have all the length possible. Women who have peeled potatoes and washed clothes have large hands with prominent joints. You can make a delicate, refined hand look like a washerwoman's by giving it width in the picture. Always make a woman's hand long and narrow."

Mr. Charles Hetherington had a word to say on action in photographic pictures. Lack of it, he said, is common. The expression of the eyes also is generally slighted. These are very essential points in a good photograph. Learn to appreciate the small details as did the late Hamilton Gibson, artist.

Remarks were also made by Mr. George G. Rockwood and others.

After these informal discussions and various illustrative arrangements of the model, Mr. Hastings read the list of prize-winners. All of the retiring officers of the club refrained from competing, in order that there might be no charge of partiality by the following committee of judges: Pirie MacDonald, George H. Van Norman, D. B. Vickery. The classes and successful competitors are as follows:

Grand prize—The Hastings cup. Two genre pictures, 11 x 14 plate or larger, subject to be chosen by the photographer. Won by E. F. Fuller.

Class A—Six or more portraits, pictures to be from 11 x 14 plates or larger; first, 8 x 10 Royal portrait camera box, value $50; second, one case 20 x 24 Climax plates; third, diploma. First, H. Shervee; second, H. H. Pierce; third, C. W. Hearn.

Class B—Twelve or more portraits, pictures to be larger than cabinets and smaller than 11 x 14; first, Darlot No. 3, anastigmat lens, value $45; second, one case Stanley 11 x 14 plates; third, diploma. First, George Bolton. Only award.

Class C—Twenty-four portraits, cabinets, or some of them smaller. First, Darlot 4 x 4 portrait lens, value $35.50; second, 8 x 15 extension Packard background; third, diploma. First, W. J. Freeman; second, C. E. Shorey; third, D. Beckford.

Class D—Competition limited to cities of 15,000 or under; 18 portraits, 11 x 14 plates, or some of them smaller. First, 8 x 10 extension rapid Lloyd special lens, value $38.50; second, case 11 x 14 American plates; third, diploma. First, D. E. Rowell. Only award.

Class E—Competition limited to cities or towns of 5000 or under; 18 portraits 8 10 plates or some of them smaller. First, semi-centennial camera stand, value $25; second, case 5 x 8 American plates; third, diploma. First, M. F. Libby; second, C. E. Brown. No third.

Class F—Competition limited to towns of 2000 or under. Twelve or more portraits, any size. First, Voigtlander Euryscope lens, No. 00, value $37.50; second, case 5 x 7 Stanley plates; third, diploma. First, C. S. Sherman. Only award.

Class G—Landscapes, with or without figures, six or more from 6½ to 8½ plates or larger. First, 6½ x 8½ view camera box, value $25; second, Thornton Pickard shutter; third, diploma. First, W. G. C. Kimball; second, Tilton & Spuhler; third, C. E. Brown.

Class H—Marines, six or more from 6½ x 8½ plates or larger. First, case 11 x 14 Climax plates; second diploma. First, H. A. Latimer. Only award.

Class I—Architectural, six or more from 6½ x 8½ plates or larger. First, case 20 x 24 Stanley plates; second, diploma. First, Whitney & Son. Only award.

Class J—Portrait groups, two pictures from 8 x 10 plates or larger. First, case 14 x 17 American plates; second, 25 x 30 gold portrait frame; third, diploma. No award.

Class K—Special prize for honorary members in the United States and Canada, outside of New England, one portrait from 11 x 14 plate or larger. First, suitable work of art; second, case 8 x 10 Climax plates; third, diploma. Judged by special committee. First, Pirie MacDonald; second, D. Hoyt; third, Mr. Steckel.

A diploma was awarded to H. Shervee, of Worcester, for the most tastefully arranged exhibit.

There were forty-seven exhibits entered for competition in the various classes. The trade was very largely represented in the space devoted to new apparatus and supplies, over twenty-three firms supporting the association in this way. The opinion was generally expressed by many present, who had attended other gatherings of the fraternity, that the convention was a remarkable success as an initial meeting. This reflects great credit on Mr. George H. Hastings, the first President of the club, to whose energy and zeal the convention and its success are very largely due. By a unanimous vote of the club Mr. Hastings was elected an honorary life-member.

The convention closed with an informal

dinner at the Thorndike in the evening, when some very enjoyable hours were spent in social intercourse. The next convention will meet at Boston in 1898. It is to be hoped that the photographers of New England will give their association the enthusiastic support it needs and already well deserves.

ROUGH CARBON VELOX PAPER.

THE remarkable popularity of the Velox papers, introduced less than two years ago by the Nepera Chemical Co., Nepera Park, N. Y., plainly indicates that this product fills what a familiar phrase describes as "a long-felt want." We learn from our trade-callers that it is very largely in demand among amateurs, and its frequent mention in our correspondence with professional photographers shows that its general usefulness is widely recognized.

Unless we are mistaken, the most recent variety, Rough Carbon Velox, will still further increase the popularity of these papers. A good example of its capabilities for outdoor pictures is shown in the frontispiece of this MAGAZINE; in another issue we hope to show its advantages to the portraitist. It is adapted for all sorts of work: commercial and artistic, large or small, landscape as well as studio photography. The picture "Dreams of Empire," given in our last number, and printed on ordinary matt Velox, has evoked the warmest praise from men who are fastidious in the detail of printing paper. Its softness, power of imparting "breadth," and the richness of its shadows, all combine to produce the most artistic effects. At the same time Velox paper, even of the matt variety, will give brilliant prints, full of forceful detail and gradation from suitable negatives, as shown in the picture of "The Birches," given in our March number. In fine, it is the most successful of the many imitations of platinotype paper which we have seen or used, and the comparison can be made without prejudice.

Considered apart from the question of the appearance of the finished print, Velox may be fairly said to possess several advantages of which platinotype paper cannot boast. It keeps well for a long period, is not affected by heat or humidity, and is exceedingly simple in manipulation. With an ordinary negative and a gas-jet a dozen Velox prints may be made at night, and finished within an hour or less. This feature has undoubtedly been one of the causes of its popularity with amateurs. Its advantages to the professional worker will be equally obvious, especially with the near approach of the busy season. Now that cold black tones are so generally favored in high-class professional work, we believe that Rough Carbon Velox will be largely used in portraiture, and we may say, in passing, that the work of many photographers will be improved in appearance and permanency by its use. We append, for the benefit of those who have not yet used Velox, the latest formulas of the manufacturers for the production of black tones, with a few notes on exposure and development.

Velox paper may be manipulated throughout by gas or any artificial light (except the electric arc-light), or by very subdued daylight.

Exposure. An average negative requires an exposure of from one to eight seconds to diffused daylight a few feet away from a northern window; electric arc-light requires about the same exposure. Welsbach gas-light needs several seconds more than arc-light; an ordinary gas-jet at three or four inches distance from negative will yield a print in one or two minutes. Very dense negatives require much more time, while very weak one requires less. Use a

strip of the paper to ascertain proper length of exposure before proceeding with regular printing. After exposure develop with any of the developers given below, watching development at a few feet distance from gas or lamp-light.

Development. General rule. Use your developer fresh and strong, in order to obtain good blacks, and add just enough bromide to it for keeping the whites of your print clear.

With any of the indicated developers development is very quick, and takes only a very few seconds. In fact, you do not need a tray, and you can put the exposed print on a glass plate or on a piece of oilcloth, and spread the developer over its surface by means of a brush. The image will appear suddenly; as soon as it is strong enough throw it into a *hypo-fixing bath*, where the prints should remain five minutes or longer, then wash as usual. We recommend an acid hypo bath, because it has a hardening action on the film, and keeps clear for several days. Such an acid bath can be obtained by adding 1 oz. of alum to every 4 ozs. of hypo. Make the bath between 60° and 80° hydrometer test, which is equivalent to about 1 oz. of hypo in about 4 ozs. of water. Keep your hypo always acid; if it does not turn blue-litmus paper red, add a few drops of acetic acid to it.

Fix five or ten minutes, then wash twenty minutes to one hour in running water.

Pure water and clean trays, where trays are used, are half the battle in successful work.

Developers. Any of the following formulæ can be used with success. Be sure, however, to have your chemicals pure, and not to let your developer become spoiled by oxidation; therefore, keep it in small well-stoppered bottles filled to the neck—rubber stoppers are recommended.

It is almost invariably necessary, in order to prevent foggy or stained whites in your print, to add a small quantity of a 10 per cent. bromide of potassium solution to the developer. This quantity will vary according to purity of chemicals and water.

Too weak a developer, or one that is oxidized or contains too much bromide, will give greenish or brownish blacks. Lack of bromide will give dirty or stained whites in your print.

AMIDOL.

Water	4 ozs.
Sodium sulphite, crystals . .	200 grains.
Amidol	20 "

10 per cent. bromide of potassium solution, about 5 drops.

METOL.

Water	10 ozs.
Metol	25 grains.
Sodium sulphite, crystals . .	½ oz.
Sodium carbonate, desiccated[1]	120 grains.

10 per cent. bromide of potassium solution, about 20 drops.

METOL-QUINOL.

Water	10 ozs.
Metol	7 grains.
Sodium sulphite, crystals . .	½ oz.
Hydroquinone	30 grains.
Sodium carbonate, desiccated[1]	300 "

10 per cent. bromide of potassium solution, about 10 drops.

[1] If you use crystallized carbonate of sodium, take double this quantity.

CRITICISMS BY PROFESSOR GRIFFITH.[1]

I WOULD say, in beginning, that I wish the pictures were all so big that you could see them all over the house, but the only thing I can do is to call your attention to them, and then you will have an opportunity to study them over in the art hall.

Criticism is not fault-finding, neither is fault-finding criticism. If I give you a reason, and you can understand my criticisms, they may be of help;

[1] The third address by Professor Griffith at the Celoron Convention, July 16th.

if I do not give you a reason, you need not accept them.

The foolish man never changes his opinion; the wise man does, and often. Let me tell you a true love story, to begin with. When I was about eighteen or nineteen years old I fell desperately in love with a very beautiful girl, as most boys do, and I thought that life would not be worth living if I did not in some way become united with her. Well I went to the old country, and while I was away I received an announcement that she was to be married. A year or two after that I returned, and her sister was about to be married. As an old friend of the family, I was invited to the wedding. She said to me in the evening: "Emma is coming home. I believe you have never met her husband. I would like to have you meet here with the family and greet them." Well, I was at the house at the appointed time.

Emma came in. She said: "I want to introduce you to my husband." A nurse came behind and carried the baby. I looked at her, I looked at him, I looked at the baby, and I thanked God that he had got her. You may call that fickleness, perhaps it was; but it was evident that my opinions and mind had changed. In speaking of pictures, I find that the picture I admire to-day I sometimes fail to see beauties in to-morrow. Pictures are like people, they have an undercurrent to them. Sometimes you will admire a picture that is really of no account, it has simply made an impression, as somebody with a handsome dress makes an impression on you.

A great picture does not come by accident; it is the result of a great thought; it must tell a great story; that is the picture that wears, the picture that pleases you for all time. That is why I said to you yesterday: study the old masters, they have stood the test of hundreds of years, there is nothing better to-day. Now, why did they stand the test? Simply because they were well done; they were well studied.

I want to speak first of this picture, "Night," by Schill, of Newark. Now, I have brought not the best, nor even yet the worst. I will speak of this first. Mind you what I say, it is only one man's opinion. I am saying it of my own free will. Here is a picture with a beautiful conception. The human figure placed in the position of an angel, "Night." It is a beautiful thought badly executed. I say that, and I will qualify it. It shows a wonderful amount of genius and thought and care in getting it in shape. I met the gentleman yesterday, and he showed me the original proof. The genius by which he gave it the easy position is to be admired, and I do admire it, but the picture is too fussy. The scene is too fussy. There is no restfulness in it, no place for the eye to rest. The figure is graceful and easy. He himself made one of the best criticisms. He said: "Naturally, we get the best light from the sun on the moon, and the moon should be turned the other way." According to astronomy, that is true. Beside the light should be the light from the moon alone, and fall on the shoulders and the figure here; this should die away, it is a line which sticks out at you, your eye naturally follows it. The man was a dreamer who created it, otherwise he would never have thought of it. It is of the more ethereal things, and is pleasing in that sense. The picture is a success because it appeals to you; there is nothing in it that jars. Yesterday I said you had in your grasp the material by which you could make good things. Do so. I have no doubt that the man himself sees these faults; he will understand next time how to get rid of them.

Prof. Griffith next took up a picture from the Baker Art Gallery exhibit (Genre Class), a lady seated with children about her. He said: This picture is a success, but, as I said yesterday, I wish somebody would invent a color which you could use for shirt-collars and cuffs and aprons which was not white. This is spotted. The scene is full of home-life and appeals to you; but the other is in such beautiful keeping that you dislike these four spots that come out at you. Here is another that will illustrate better what I am trying to tell you, "The Old Smoker," or rather there is nothing wanting in the construction and harmony of that picture, nothing wanting to my idea. See the pictures. How they arrange themselves four or five in line. You know he is intently reading. Even the light that falls in the skillet is kept down. It doesn't intrude upon you. But what a *damnable* background! I am out of patience with a man who will do such a good thing and then do such a bad thing. I say that, as I said, kindly. See those posies up there (pointing to the flowers and vine in the wall-paper); there are no posies in that man's life or mind. I don't know whether that man thought or not, but there is the sign "bad bills;" see it up there. Do you suppose there is any posy in that man's life? There might have been years ago, but there are no flowers in the man's life now. If they were there he would tear down that vine that grows around the door (vine in wall-paper). That is a kindly old face, but I wish I might carry the picture home and

paint out that background. Call all these lines accidents, if you want to, but marvellously good accidents, and, as I said, I wish an accident had happened to the background.

I pick up two little heads, full of childish innocence, as sweet and as pure as a mountain dewdrop. They appeal to you as some pleasant dream of a night past, marvellous in their construction, in their lighting and beauty. They are the gems of that entire little group. There are grown people in it, and beautiful ones, but these could have been put on a panel by themselves, and they would have told a story to every man, woman and child. They are the essence of childish innocence and delight from every point of view. There is nothing you wish to take away and nothing you wish to add to them. The mechanical labor I do not feel capable to judge, but the picture itself is delightful.

Among a collection over there of pictures of marvellous excellence, I picked out this one. The man who made it understood the centralization of light, the attraction of the eye to one point which you could understand, and the effect of silk and satin and lace. You know it is all around the dress, but there is nothing down here on the skirt to confuse you and make it tiresome.

I don't care how a man secures an effect if he secures it. You may paint with a hickory broom, but if you make a dress that whisks and whispers when it goes down the aisle, that is a success. This man was a success there either by training or natural ability; but, oh dear! I wish he would throw his pencils out of the window. Look at that face. Clearly you will see that all the character is retouched out of it. It is as hard as a bell. I am sorry, it won't dent. You couldn't touch it. It is simply hard; the result of the pencil. You say people want that kind of a picture.

A man is simply as good as he makes himself. A young man said to me over there: "Say, will you look at my pictures?" "Why, yes sir, I replied. He said: "Honestly, it seems to me they are just about as good as the best." To his inadequate eye he could see nothing better than his own work; but when he educates himself to see that there is more marvellous work than he ever dreamed of, then he will begin to build beyond the bread-and-butter point. The first thing is to educate *self*, and then pull up the people with you. We sometimes get into a little town where we see nothing better, but, once in a while we can slip away where the better things are.

Among a collection of unusual excellence this is the gem. Simply the concentration of sympathy and of interest. Those children are evidently this woman's grandchildren, and she takes the grandmother's interest in them. My own nieces and nephews are allowed to run the house, and I know that we, as children, were not; simply a grandmother's indulgence, and you see it in this picture, the interest of the little folks, together with the kindly, grandmotherly interest of the old lady. Your interest is centred there, where the children and the grandmother are. There is nothing to call your attention away.

Here is a pleasing portrait. The piece is happily adapted to the model. Some of the pictures over there, if you will allow me to say it, without mentioning names, the models are not adapted to the characters which they represent.

There is a nun over there. She would look magnificent in a picture hat, and if you smiled at her you would get a smile in return. There is no nun in her make-up. She is watching for her ideal of gallant manhood, and, when he comes, he will know it, simply that sparkling, open look. Here is a nun, made so by suffering, not simply by choice. Her face expresses it. It is full of motherly kindness, love yearning after that which she never hopes to secure. It is a magnificent face, and appeals to you, not by striking contrast of light and shade, but by its wonderful modesty, its wonderful quietness. She is narrow down here. When you find broad faces they are of the earth earthy, they love a good time.

I would like to say to the gentleman who owns that picture: "Take off that frame and give it to me." That white frame catches your eye and pulls you right to it. It is a good thing in its way, because it calls you to the picture, and you look at it by-and-by.

Here is a picture. I would like to *pat* that girl's cheek. There would be a *dent* there. You have got the harmony. Your face and eyes go directly to her face and eyes, and when you speak to her she will return it with a smile, her whole face will light up. It is a *marvellous* portrait. It is a portrait picture and a wonderfully pleasing one. It appeals to you and draws you just where the girl is.

Now, I don't know what the judges have done, and I don't care very much. There is the gem portrait of the collection. The model was magnificent, and the man made the most of it. She is a typical American girl, with all of the snap and vivacity and go that American girls have, a magnificent type of womanhood, and he has reproduced her as she appeared to him. Notice the drapery, how very soft, and yet a little *higher* in tone than

the flesh, and the eyes appeal to you; they are speaking eyes. The face is in low tone, but it is a marvellously pleasant face to look at. If you passed that girl on the street you would turn around and look at her.

In contrast, allow me to say: There is a head with marvellous possibilities, but the man didn't get them, if you contrast it with this other portrait. I envy him his model, not the picture; it isn't bad, neither is it good. I believe the people who got that were pleased with it. It is beyond the average portrait; but this one is not; and that is why conventions and exhibitions are of value—they put you in connection. You are placed side by side, and, if you look at it fairly and squarely, you will see the contrasts.

This picture is a very pleasing type of American humor There are several different kinds of wit. The Scotchman's is underneath. You have to look through the surface and think a little before you catch quite the drift of it. The Irishman's is on top, it sparkles and you catch it. This is not artistic. It is captivating. It is like Nast's cartoons. His pictures are sought after yet, because they are biting in their sarcasm. They are not art works; neither is this, and I think the man would not claim it was, but it shows a marvellous talent for humor.

One more here shows intelligence of arrangement in portraiture, but I wish he had got an old man's figure; this is a boy, or at least a middle-aged man. There is none of the wrinkles and the nervous force of the "lean and slippered pantaloon" that Shakespeare speaks of. It is the sentiment you wish to keep throughout when you go to the picture side.

You say that in landscape work we are hemmed in to one particular fancy. You are hemmed in by possibilities. In the studio you can secure certain effects by your screens, not so out-doors, you must take it as it is.

If the mountain won't come to you, go the mountain. If Nature will not unbend to meet your wishes, unbend to Nature, and catch her when she is unawares, when she has forgotten that you are about; study well the point and then go for the picture.

There is a poem in light and shade, one of Nature's poems. You *can see color* in that. The man has a dozen pictures or more over there; he said to me this morning: "What do you think of them?" and I said: "If they were sent to me for exhibition purposes I would pick out those three and turn the others to the wall." This is one of them. I believe he calls this "Night." It should be "The Golden Way." Marvellous thought or accident, whichever you will, placed that old self-complacent sailor, who probably fifty times a year sees such scenes as that, and yet he is spell-bound. With his hand on the boat he looks out, and, I venture to say, that in his mind's eye sees "angels ascending and descending," as Jacob did. Nature is the most brilliant of all creations, but she is selfish; your sunset with all its glorious colors lasts but a few moments, because you would be tired of it if it lasted all day. Last night the lake was all glowing with pink, and orange, and blue, and purple, and scarlet; but they only lingered a moment. It was the passing of that which was so marvellously beautiful, you could not describe it.

(Returning to the picture in his hand.) You could stay before that picture and write a poem; the man could dream out a novel and need no more setting than that for his scene; it simply is a glorious story in *black* and *white*, that you need only to half close your eyes and see the *color* that creeps all through. (Applause.)

Now I have brought one or two others here. Here is a picture by a gentleman, who, I believe, is a friend of mine, and he has got too much sense to feel unkindly at what I am going to say about it. He wanted to represent *Samuel*, and he found the model, a delightful little Samuel, full of that emotion which we expect to see in a character of that kind, but your eye goes from the face clear out to the edge of the picture—it is distracted. Last year in the Paris Salon were two little children, not a great picture, but two little children sitting on a bank. They had taken dandelions and thrown them about their feet, where they lay like a golden halo. You could sit down and cry before that picture, because it called to mind some child that you knew. There was constantly a crowd about it. It appealed to the people. There was sympathy in it.

Great pictures are the result of great thought, not hap-hazard productions. They are the product of the artist who finds his model and dresses him and redresses him, again and again, and then, like Washington Allston, when the picture is all done, writes to a friend: "I have painted it all over white, and begin again." That means success. It is the sticking to it.

Chartrain receives $5000 for a picture. This picture I have had the opportunity to show to you through the kindness of Mr. Sevier. That man's character is full of color. Mr. Sevier is here. I think he has knocked around the world enough to

know that what I say is true. I wish that spot didn't come down there. Now it is a great picture. That spot across there and on down there. A man full of character and the stamp of character. In my estimation he is a physiognomist. He knows what he wants to grasp to paint a picture. He is painting the society people of New York. This is to my thinking a fine portrait, but society people unhappily are bad subjects; theatrical people are the best. Take homely people, and on the stage they are trained to talk and walk gracefully. Why? Simply because Charlotte Cushman, the homeliest person, I think, that ever walked in America, would walk across the stage a hundred times to see that she had it correct. Mr. Sevier showed me three pictures of this man, he is a bad subject (these are pictures of the Bradley-Martin ball; some of them have been published), yet this man has tried again and again until he has got him in a position which he fits, and so this pose is the best of the four. I would play smash in a drug store with the others. He is a bad subject, there is no way you can catch hold of him and put him in position.

There is a man who never stands in a bad position, I will venture to say. Here is a woman who is a natural artist in the way of posing. I understand this was taken at a time when it was hard to keep them still long, yet this posing is fine.

Here is a gem of the collection: "The Princess Louise," reproduced by an American girl; that famous picture which I spoke of yesterday, which is one of the grandest expressions of portraiture. Here the artist has caught it, has got almost the face.

You say perspective does not come into photography. I go into exhibitions where apples are painted on plates, where you would have to hold them or they would roll off. I believe, I may be wrong, but I believe that portrait painters all over the world elevate their subjects, get them up on the platform, it gives them dignity and repose. Nearly all the women over there (referring to the exhibits in the annex), strike me as being too dumpy. They may be dumpy, but I would give them grace. I would get enough of that elevation to catch the dignity, to make them look taller—people on the stage look taller—and yet, at the same time, keep them down with your eye. Don't forget that sometimes when your subject sits down you have got your subject above those people. I would put it on the floor for that class. A lady brought me a picture and wanted me to talk candidly about it.

I set it down on the floor. She said: "What makes you do that?" I said: "That is where it belongs." She said: "Why, I made it to hang on the walls." I said: "You brought your fruit, your bananas in and put them on a chair." She said: "I didn't; I put them on a candle-box." That was the difference. I said: "Well don't you see they are sliding down." She grabbed up her picture and walked out; but she came back in a few weeks and said: "Well, I didn't like what you said very well; but it was the best lesson I ever got, and it didn't cost anything." She had painted it all over.

The old masters understood this, and when they painted a ceiling with figures flying in it you saw the bottom of their feet, simply because a man couldn't fly up there in any other way.

The world is like a saucer. Go up on these hill-tops, and the lake rises with you, but, at the same time, keep your elevation down. I don't like to criticise the building in which I am speaking; the acoustic principles are splendid, and yet, when I look back (here Professor Griffith turned and looked at the water painted upon the scenery behind him) I am all the time afraid that I am going to be washed off somewhere; it makes me feel as if there was just a bank holding that in, and then the first thing you know that would slide away and away you would go. When you make portraits or pictures take into consideration all these things. I thank you for your attention.

The applause was so prolonged that Professor Griffith came back and said:

I wish I could have brought the whole gallery of exhibits. This picture appealed to me because it was a good old motherly face. It is a pleasing portrait, and the people who loved and honored and respected that woman will love and honor this picture. This is a picture-portrait. There is no effort made to show you anything but the womanly character of the woman.

I know who this one belongs to. If Pirie MacDonald is in the house will he please go out.

By Mr. MacDonald: Pirie MacDonald is out.

By Professor Griffith: Pirie MacDonald, of all the pictures I have ever seen, has never equaled this. I don't know whether to attribute it to study or to accident.

By Mr. MacDonald: I matched a man for that.

By Professor Griffith: You certainly won.

Here is a fine collection of pictures, a row of portraits; this is also a portrait that not only tells a story of mother and child, but that grandest of all the halos that circle around a woman's head crowns this woman; she is a model mother, and

her child is full of sympathy and likeness to her.

In the gallery at Dresden they placed Raphael's famous "Madonna," and on either side they placed marvellous pictures. In two or three years they discovered nobody saw anything but the "Madonna," that marvellous type of motherhood, touched by the God of Love and of Motherhood; they only saw that, and that one picture made them forget to look at the others, and to-day, if you go into that gallery you will see nothing but that one picture of the mother and the child. No one at the door need say: "Take off your hat."

At Garfield's Memorial they have placed all around the word: "Silence." It is like painting a picture of a horse and then putting after it: "It is a horse." The majesty of the place, the marvellous memories of the man, should command silence. This picture commands admiration. I don't care who the woman is, who the child is, I don't look for her dress (though I see she has a magnificent dress), my whole thought and interest centre there—mother and child. If that woman hasn't a grand husband, she will get one up there; she deserves it. (Applause.)

I thank you for your attention.

AN EDITOR'S POINT OF VIEW.[1]

MR. PRESIDENT, LADIES AND GENTLEMEN: In the course of one of his brilliant speeches Mr. Griffith favored you with a quotation which ought to be the motto of every photographer:

"O wad some power the giftie gi'e us
To see oursel's as ithers see us!
It wad frae mony a blunder free us
And foolish notion."

Your President has conferred that power upon me. He has shown me myself as others see me; I am a Bogieman. I was always under the impression that I was one of the mildest and meekest mannered men that ever trod the earth, but the scales have dropped from my eyes. You know the old saying: "Give a dog an ill name, and you may as well hang him;" so I am standing in the dire position of being carried off and executed.

Possibly, however, your President meant this little remark of his as a compliment. I find photographers enjoy some very curious compliments. I got one some months ago, and I have been thinking of it ever since. A photographer in the South sent me a letter. He said: "Don't you know you are a second Jeremiah?" I didn't know it. I put him another one; I sent back the question: "Who is Jeremiah?" His answer was a caution: "I am surprised that any Scotchman don't know who Jeremiah was." If there is anything I have prided myself upon, it is this: Nobody would ever suspect I was Scotch if I didn't go and tell them, and he swept that consolation away from me.

A few weeks ago I was riding in a street-car in Chicago, and there stood a man of my own shire, Aberdeenshire. His accent could go around Chicago by itself. During our talk I said: "What part of Aberdeenshire do you come from?" "Oh, away up in the noarth?" I began mentioning the names of the towns." I don't mention the names of the towns now, I have mercy on the poor typewriter. At last I said to him: "Foggylone," he said: "Yes, but sure as death I can't help it." So I have to acknowledge that I am Scotch, but I can't help it.

The popular opinion about Jeremiah is: he was a calamity howler, a man that went about many years, prophesying all sorts of calamities; but that I consider to be a very mistaken idea about Jeremiah. He himself says: "his work was to pull down, to root out, to destroy, to build and to plant." If that is what my Southern friend meant, that my work was of that nature when he called me a second Jeremiah, he gave me a great compliment, indeed, and I only hope that I will be able to live up to such a course as that. In the last two years I have just endeavored to root up, and to destroy, and to throw down the old ideas of photographers, and, in their place, to build and to plant new ones; and, if in the smallest degree I have been able to accomplish that, I have been able to do my work; and in looking through the convention hall since I came down here, I am more than delighted with the results. There, I consider, is the finest collection of pictures by photographers, that was ever gathered together anywhere in the history of this world.

Understand you, when I say that, I don't mean to insinuate that every exhibit over there is a work of art—very far from it. The majority of the pictures still show to me that their makers are in absolute ignorance of even the elementary principles of art. All the more glory to those who in the last year have been studying and have been able to produce such marvellous work as is hanging there.

[1] Mr. F. Dundas Todd's criticisms at the Celoron Convention.

A few nights ago I was reading a book (I read everything, I don't care what it is, good, bad or indifferent, and very rarely I find a book where there is nothing that strikes me).

In this book that I was reading, the last book in the world where I would expect to find a grand thought, I found this: "The greatest pain in the world is the pain of a new idea."

Just think of it! Not very long ago men were put to death for new ideas. In the present day any man who brings forth a new idea is called crazy, or a socialist, or an anarchist, and the brighter the idea, the more oppressive is the world to him. That is all right. New ideas met with indifference die. New ideas met with strong opposition are the ones that live. The oak grows mighty and spreads over the acres around it simply by means of the strong winds that blow around it; and so ideas that meet with strong opposition are the very ones one expects to see survive. Two years ago I was impressed with a new idea by a series of pictures I saw at the Detroit Convention. I stood and admired them, and talked about them, and the photographers gathered around and listened. A good friend, in order to confer a great kindness on me, pulled me out and said: "Todd, you are crazy, but if you hold your tongue the boys won't know it." Said I, "I will make you crazy in a year." That man is in the Convention to-day. I hope he is here; and I want to tell you that to-day there are others that are crazy as he is crazy. The man is Pirie MacDonald.

There are many pictures over there that show that the makers are still absolutely ignorant of the elementary principles. If they are doing work that is not right, the sooner they know it the better it is for themselves. Two things have to be considered in art: the lighting and the position. I am dealing with the plain mechanics. My work is not leading away up into dreamland, but to teach grammar, and it is the grammar of art that I want to rub into you. There are certain principles of lighting acknowledged by all the photographers the world over, and before photographers can make pictures they must know these principles as thoroughly as they know their A B C's. Until they can shut their eyes and describe just the lighting they want to see on a face they are absolutely ignorant of the elementary principles of lighting. It is the same way in composition, there are certain recognized laws laid down in clear, definite language. The man ignorant of these laws may once in a while make an excellent picture, but he cannot possibly make good pictures all the time. Therefore, go and learn these elementary principles.

I have the names of two books I think photographers should read. They are by an old photographer of Great Britain, H. P. Robinson. What I know of composition I owe to that man's books; therefore, in common justice, I name them. One is *Picture Making by Photography*, the other, *Pictorial Effect in Photography*. You can get these books from any of the publishers in New York City, Scovill & Adams, E. L. Wilson, or E. & H. T. Anthony & Co., or you can order them from your local dealer.

I bought dozens of books on art and flung them aside as not appealing to me. After I got these books I read them a dozen, aye, a hundred times, so that I speak out of my experience. I speak with more hesitation on lighting, simply because, as a publisher, I am interested in a book by James Inglis, on *Artistic Lighting*. He has set the principles of lighting forth in, what I think, a wonderful way, and one must mention this work along with the books just mentioned.

Before a person can speak any language correctly he has got to understand the rule of grammar; and before a man can make artistic pictures he has got to understand the principles of lighting and composition. But I want to warn you of one thing: because a man happens to know the rules of grammar he will not necessarily be able to write poetry; because you know the rules of lighting, it will not follow necessarily that you will make pictures; but you cannot make pictures without knowing these rules; you cannot write poetry without knowing the rules of grammar.

I have spoken with too many I's in my speech.

A photographer wrote me not long ago; he said: "This letter would have been better if it had been blinder;" but it is a very hard matter to keep the I's out, and I realize that I haven't been the only pebble on the beach. I have had wonderful help, and to that I want to pay acknowledgment. A year ago I spoke a sentence to you that came out of the fulness of my experience. The times of depression are times of awakening. When business is good and the dollars come tumbling in at the door, who is going to improve? Let well-enough alone. But when business is dull a man sits down and scratches his head, and thinks what he can do to improve. These are the times when business advances. The men who won't listen to new ideas are the ones who are going to the wall. Photographers are really the only people who want to sell the same goods to-day they were selling

years ago. Suppose a local dry-goods store tried to sell last year's fashions, how long would there be any business? You take the average business man in any town, he is on the lookout for novelties all the time—new styles. Photographers, I am sorry to say, are not. I would urge upon them the necessity to try new styles, new ideas; possibly one, six, or ten will be a failure; but one may be a hit, and then you get ahead.

Sometimes I think photographers don't realize what a noble profession theirs ought to be, for what is there except, perhaps, the healing art and the saving of souls, more noble than the power of passing down to posterity the faces of the great men who have lived, and the even greater power of handing down the faces of loved and dear ones.

I had experience of this kind. During my first experience in photography I attempted a family group, which turned out a failure. In the group was a child of eight or nine. Her light dress and light face made an impression on the plate where the older ones had failed to make any; by-and-by I found it in the way and flung it in the waste-basket. Ten days after that the child was taken sick and died, and the mother came down to me: "Oh, if you have got anything, ever so little, of the baby, I would like it." I was grieved to the heart to have to say to her that I had put the negative away. That opened my eyes to the grandeur of the photographic business. Since then I have never put away any negatives, no matter how common-place, until I knew that negative had been replaced by something better.

Photographers are educators; they are teachers to millions of people; in this country they form the artistic standard, and, as educators they are judged by the work they do. If they have been teaching truth, the reward will come. If they have been teaching what is false, they will pay the penalty that all false teachers pay. Has your work been true? If it has it will stand; if it has not been true it will be neglected by the public, and before you can make any headway you have got to go back to right principles.

A great many people say: "We are having bad times. Pictures are a luxury, therefore the picture business is dull. When good times come again we will have all the business we want." Possibly you will; but when I left Great Britain the photographic business was quiet, so was every other business. Now I find other business conditions are excellent; photography deader than before. If you want to get the good times when they come again, take care that your work is up to the standard, and I have no fear for you.

SOME RECENT PHOTOGRAPHIC PATENTS.

We have arranged with Messrs. Alexander & Davis, patent attorneys, of Washington, D. C., to supply a monthly report of patents relating to photography granted and expiring each month. This information will doubtless prove of interest to our readers. Copies of these patents may be obtained from Messrs. Alexander & Davis at 10 cents each.

Patents Issued June 18—July 8.

Photographic Films. George Eastman, of Rochester, N. Y., assignor to the Eastman Kodak Co., of same place. No. 584,862. Dated June 22, 1897.

This invention is designed to overcome the defects inherent in photographic films, consisting of a base or support of nitrocellulose or similar compound. In the use of these films it is found that large quantities are destroyed or rendered worthless, because of streaking or spotting caused by sparks or electrical discharges produced when a roll of film is unwound when in the camera, or during its manufacture. These sparks are sufficiently bright to fog the sensitive emulsion on the film, rendering it worthless for negative-making purposes. The purpose of this invention is to make the support or base non-electric, so that electricity will not be developed by it, and at the same time secure a transparent and flexible base for the sensitive emulsion.

Bas-Relief Photographs. John Jacobson, Boston, Mass, assignor to William B. Lambert, Cambridge, Mass No. 584,550. Dated June 15, 1897.

The photographic plate embodying the invention consists of a surface portion and a base or supporting portion, the former being adapted to have reproduced thereon by photographic process a relief image, and the latter being adapted to be mechanically manipulated to produce the more prominent reliefs. The surface portion of the plate consists of a film of sensitized gelatine, capable of producing a relief image by the well-known swelled gelatine process, which consists of photographic exposure and subsequent soaking in water, whereby the details are reproduced in a comparatively low relief. The base portion consists of flexible sub-

stantially non-elastic material, capable of being mechanically manipulated and thus brought to the desired shape, but having sufficient rigidity to retain the shape in which it is left, lead being material which is especially adapted for the purpose.

RELIEF PHOTOGRAPHY. John Jacobson, Boston, Mass, assignor to W. B. Lambert, of Cambridge, Mass. No. 584,552. Dated June 15, 1897.

This patent covers a matrix, consisting of a base or supporting portion of different thicknesses in different parts, the said parts conforming to the outline of objects in different focal planes, and a film of sensitized gelatine which has been exposed and cut into sections conforming to the different parts of the said supporting-plate, and secured to the surface thereof. This matrix is then soaked in water to bring out the detail in relief on the gelatine. From this matrix the picture in relief may be made.

PHOTOGRAPHIC PRINTING PAPER. William Schroter, of Frankfort-on-the-Main, Germany, assignor to Fabrik Techiuscher Papiere Arudt Und Troost, of same place. No. 585,452. Dated June 29, 1897.

This invention has for its object the production of photographic printing paper which may be developed, after printing, in pure cold water. It requires no developing-bath and no fixing-bath, except in some classes of work it is desirable to employ a fixing-bath. The paper consists of a highly sensitive photographic-printing sheet, formed by soaking paper or textile fabric free of chlorine in a solution of silver nitrate and iron ammonium citrate, to which is added free tartaric acid to redissolve the precipitated silver.

PANORAMIC CAMERA.—Louis Jeffery, London, England. No. 586,097. Dated July 13, 1897.

In this invention the camera is pivotally mounted on a vertical pin in the centre of a disk, and revolves on the disk, being supported thereon on small rollers carried by the camera. A film is mounted within the camera and provided with means for unwinding and passing the lens opening. A means is also provided for causing the film to press against the edge of the supporting disk, and to thereby cause the camera to revolve upon its pivot.

PRINT WASHER. Daniel Argerbright, Troy, Ohio. No. 586,280. Dated July 13, 1897.

This invention comprises a rectangular vessel mounted to rotate on hollow trunions, and is provided with a door through which the prints are inserted, and which may be made water-tight. On the outside of the casing pans or receptacles are provided, into which the outflow from the washing vessel is directed by means of a pipe which extends to a point above the vessel. The water runs into the washer through one hollow trunion and escapes by the other. As the pan on the outer side and at the upper side of the vessel becomes filled with the overflow, the weight overbalances the vessel and causes it to partially rotate to bring another pan up to the overflow-pipe. In this way the washing vessel is made to automatically and intermittently rotate. By stopping the flow of washing liquid the rotation of the vessel will cease. The article patented was briefly described in an earlier number of this MAGAZINE.

PLATE-HOLDER. A. Mutschler and J. A. Robertson, Rochester, N. Y. No. 587,991. Dated August 10, 1897.

A metal plate-holder; the front is provided with an exposure aperture, and its three edges are flanked around to form a slide recess behind the front, this being stamped in the back section.

KINETOGRAPHIC CAMERA. Leo Grubruan, New York. No. 587,729. Dated August 10, 1897.

This invention covers the construction details of a camera box for the exposure of bands of film by intermittent movement, so that the sensitive film is unwound from a supply spool, passes behind the lens, and is again wound upon a receiving-roller.

KINETOGRAPHIC CAMERA. Jos. Rous, Paris, France. No. 588,014. Dated August 10, 1897.

A chronophotographic apparatus providing for the exposure, at fixed intervals, of portions of a band of sensitive film. The patent covers parts of the mechanism employed and the construction features.

KINETOGRAPHIC CAMERA. Alfred Wrench, London. No. 587,516. Dated August 3, 1897.

This patent covers certain improved methods of construction and specific parts of the mechanism of a camera for the exposure of a band of sensitive film by rotation, the intervals of exposure of the portions of the film being regulated by special devices.

DEVELOPING TRAY. W V. Esmond, assignor to E. & H. T. Anthony & Co., New York. No. 586,962. July 27, 1897.

A film-submerging device, comprising a roller journalled in two springs, constructed and arranged so as to be detachably connected with the sides of the developing tray.

CAMERA VIGNETTER. W. C. Farrand, assignor

to E. & H. T. Anthony & Co., New York. No. 586,963. Dated July 27, 1897.

This invention consists essentially of a tube supported in a frame and adapted to slide through it; a slideway pivoted to the tube; a shield supported upon a rod which moves along the slideway and engages a sleeve within the tube, whereby, by lever manipulation, the sideway may be tilted and the tube oscillated on its axis.

VIEW FINDER. L. J. R. Holst, Amsterdam. No. 587,056. Dated July 27, 1897.

A view finder, having a stationary ground-glass screen on its upper face, with a cover, a mirror secured to the lower side of the screen, to reflect the image horizontally upon the screen; and an additional cover for the mirror whereby the view finder may be used with the mirror or without it.

EDITOR'S TABLE

AN INTERNATIONAL PHOTOGRAPHIC EXHIBITION will be held at Glasgow, Scotland, during September and October, under the auspices of the Glasgow and West of Scotland Amateur Photographic Association. The various classes include all branches of photographic work, with a special photo-mechanical section. Gold, silver, and bronze medals are offered.

GOERZ LENSES (C. P. GOERZ, 52 Union Square, New York) have long been acknowledged as unrivalled for reproduction and outdoor work. Those who were privileged to see the lenses shown at Celoron—a full set of the various series—learned that they more than sustain their high reputation in portrait work. Of the sales made at the convention several included Goerz lenses of long focus for prominent Western studios.

MESSRS. JAS. SMITH & Co., 311 Wabash Avenue Chicago, have extended their general supply department, and, in addition to their Globe enamellers and other well-known specialties, can supply all the best makes of cameras, stands, and photographic conveniences at economical prices. Their new price-list, which is in handy form, gives a complete account of the goods. Copies free on application.

MR. OTTO VON BARGEN, San Francisco, sends two photographs of a balloon ascension, taken at 5.15 P.M., which reflect much credit on his skill. Two creek views, also sent by Mr. VON BARGEN, combine an unusual amount of detail in the shadows with charming water effects.

THE DANETTE is the latest novelty in portrait styles. It is a miniature bust portrait about 1¼ x 1½ inches, printed with a margin, on canvas surfaced celluloid film. This is a "taking" little picture, and originates with Mr. W. N. DANVERS, of 3424 Olive Street, St. Louis, one of the most popular photographers of that big city.

Photographic Progress is the title of the last illustrated catalogue published by the enterprising supply house of BADGLEY & HOERTER, Louisville, Ky. It contains many interesting pictures by Western photographers of repute and several columns of useful hints.

ROSS-GOERZ AND ROSS-ZEISS LENSES.—Mr. G. GENNERT, 24 East 13th Street, New York, the American importer of these famous lenses, reports a record season in the matter of sales. The Ross lenses have always held the place of honor among the instruments used by the best American photographers, and this popularity increases every year. Those in need of a new objective should not fail to consult the new price-list just issued by Mr. GENNERT.

PLATINUM FOR TONING.—We are frequently asked to publish a method whereby photographers may prepare chloroplatinite of potassium (as they prepare their own gold chloride) for toning purposes. In reply we would say that the preparation of chloroplatinite is a difficult matter and beyond the means and apparatus possessed by the majority of photographers. It is much cheaper and more advisable to buy the salt as sold commercially.

RAY-FILTER PHOTOGRAPHY.—The approach of autumn, with its gorgeous coloring of skies and foliage, brings to mind the necessity of using the BAUSCH & LOMB OPTICAL CO.'S Ray Filters to secure correct color values in outdoor work. These little conveniences make a wonderful difference in the effects secured, and no outdoor outfit is complete without one. A glance at the recent booklet issued by the company proves this advantage in a very convincing way.

A PHOTOGRAPHIC EXHIBITION IN NEW YORK. *To the Amateur Photographers of the United States:* On the occasion of the Sixty-sixth Fair of the American Institute, at Madison Square Garden, New York, September 20th to November 3d, 1897, it is proposed to have an exhibition of the work of amateur photographers. The amateurs of our country have attained to such wonderful excellence and proficiency, and have displayed such extraordinary instincts for artistic purposes, that we look forward to this exhibition as one likely to surpass anything that has been given.

It may be well to say that at this fair there is to be the first exclusive exhibition of American art, consisting of drawings, paintings, and sculpture. This will bring to our fair the most cultured and educated people, who must, of course, find also great interest in the work of amateur photographers

Well-known artists will act as judges, who will award, in the various departments of photography genre, landscape, marine, portraits, instantaneous, enlargements and interiors, medals and diplomas, as in their judgment may be proper.

In order to limit or control the space given to exhibitors there will be a nominal charge of twenty cents per square foot. It is expected that not less than 100,000 people will visit the fair.

May I urge promptness in informing me as to the amount of space required and equal promptness in having the exhibits ready in time. They will not be admitted after the 18th of September, and every exhibit must be in order before the 20th. Assistance will be furnished for hanging the pictures. All pictures received from out of the city will be taken care of, hung with care, and reshipped to the owners at their expense after the close of the fair.

Respectfully,
GEO. G. ROCKWOOD,
Chairman Committee on Fine Arts,
1440 Broadway (40th St.). N. Y.

LENSES UNDER THE NEW TARIFF.—Messrs. B. FRENCH & Co., Boston, the American agents for the Voigtlander lenses, notify us of a slight advance in the price of all imported lenses, owing to the increased duty imposed by the new tariff. Photographers need not be told that the above-named firm has always had at heart the interests of the fraternity, and have done all in their power to keep the duty on imported lenses such as they have handled for over fifty years down as low as possible, and that they are not responsible or desirous for the increase of duty.

These remarks apply also to the popular and genuine Darlot lenses also imported for the American trade by BENJ. FRENCH & Co., who are prepared to send a revised price-list of their lenses on application.

NEW PRINTING-OUT PAPERS.—Among the sensations of the Celoron Convention was the superb display of pictures printed on the new printing-out papers just placed on the market by the REICHENBACH, MOREY & WILL CO., of Rochester. These papers, named respectively *Victor*, *Victor Matte*, *Victor Special*, *Vera*, *Vera Matte*, are prepared from the personal formulæ of Mr. H. M. Reichenbach, formerly chemist of the Photo-Material Co. and the originator of the well-known "Kloro" and "Celoxa" papers. We have examined a number of prints made on the "R., M. & W." papers, and can commend them to the fraternity with confidence. The prints shown us as made on *Vera Matte* were hardly distinguishable from perfect carbon pictures, exhibiting the same richness and depth, with the transparency and delicacy which have won such favor for the carbon process. Photographers interested in the new papers can obtain samples and particulars from the company on application. Their announcement on our third cover-page is worth attention.

THE KIRKLAND LITHIUM PAPER CO., Denver, inform us that, as far as they are concerned, the "wave of prosperity" is in good working order, the factory is running on full time, and Lithium paper is selling more largely than ever. Their only difficulty is to supply the orders for "seconds," the coating machine running so uniformly that almost all the paper coated is perfect. This enterprising company has just issued a humorous folder, titled "How to photograph a cow, and make a good print," which must be seen to be appreciated. Copies may be had on application to the Denver, Chicago, or St. Louis offices. See their advertisement.

THE OHIO PHOTOGRAPHERS' ASSOCIATION, whose seventh annual convention closes to-day, issues a beautifully gotten up programme with a poster cover. We hope to give a report of the proceedings in our next number.

THE CONVENTION OF NORTHWESTERN PHOTOGRAPHERS met at St. Paul, August 3d to 6th. On another page we give the report of a lecture delivered before the Association by Mr. C. A. Zimmerman. Further details will be given in our next number. The affair was remarkably successful.

EMMA EAMES

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WILSON'S PHOTOGRAPHIC MAGAZINE.

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JOHN A. TENNANT, Associate Editor.

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ON THE GROUND-GLASS.

THE conductor of *The Ground-Glass* personally appeals to the fraternity to focus its goodwill upon the project to provide the veteran Jex Bardwell and his wife, of Detroit, with a home for their old age. There has never been, in the history of American photography, an opportunity for doing good so well-deserving of the co-operation of the craft as the scheme which has for its object the relief of this well-known photographic worker. On another page Mr. J. F. Ryder urges the necessity of prompt and generous action, and we trust his call will meet with a hearty response. We are asked to state that the National Association has not voted one cent toward this fund or for the Bardwell Home. What has been done has been done by personal contributions from photographers. An energetic effort, many subscriptions, little and big, from all will complete the work. Let all who can, give promptly and freely. Subscriptions may be sent to any of the gentlemen mentioned in Mr. Ryder's letter.

The interesting paper by Messrs. Haddon and Grundy, on the fixing of prints, given on another page, deserves careful focussing. While it primarily concerns albumen prints, the conclusions reached are of practical value to all who use the newer gelatine and collodion print-out papers. In its peregrinations among the studios *The Ground-Glass* has observed that few details of printing-room practice are so commonly neglected as the fixing and washing of the day's batch of prints. To this lack of attention may be traced the large proportion of weak and faded pictures seen in family albums and photographers' display frames. The fact cannot be too strongly emphasized that all the care given to the making of the negative is void unless proper attention is devoted to retaining in the print all the brilliancy of the negative. Permanency, also, depends upon the finishing operations. Both of these desirable qualities may be easily secured by the conscientious use of a generous quantity of fixing solution, and a quick, but thorough washing of the prints afterward.

Among the indirect results of the renaissance in portraiture *The Ground-Glass* focusses upon a new, indefinable feeling among the younger, and some of the older, heads in the profession that photography is not quite the easy, go-as-you-please business they imagined it to be. The following bit of sarcasm, from the pen of the veteran H. P. Robinson, voices the sentiment after a novel fashion:

Ransom. "We understand how easy pho-

tography is, but we have not yet got to recognize the other end of it. Photography in its higher developments is the most difficult of all the arts or crafts. This is shown in a curious way. We have infant phenomena in all, or nearly all, the other arts, but not in pictorial photography. Take my own particular study. Music is full of maturity in infancy. It is perhaps scarcely fair to take an easy art like music to compare with photography; but everybody, more or less, plays some instrument, as everybody, more or less, practises photography; but they are alike only in universality. Children have been proficient in music, but never in photography. Handel played the organ at seven; Haydn mastered several instruments before he was nine; Mozart at the age of four wrote tunes, and improvised fugues at twelve; among the moderns, the powerful Von Bulow could break piano-strings at a very early age; and we have more than enough of poor little premature prodigies and wonders in frills and knickerbockers, brought around the country to excite the admiration of the unthinking and the compassion of the thoughtful. Infant painters have happened, but few of them were really artists. Raphæl painted the Ansidei *Madonna* at twenty-three, but who ever heard of a great photograph produced by a boy, or even by a girl? But, still, music must be regarded as the easiest of the arts; we never meet with boyish perfection in painting. There is only one of the arts more difficult than photography, or wants the same mature skill, that is billiards. You can see the whole Royal Academy for one shilling, but it takes half a guinea to see billiards in perfection. Chess is difficult, but it is not in it with combination printing for bringing out your reserve powers. But this kind of argument will lead us to the contemplation of photography as the most difficult, and, in its perfection, most sublime of the arts. It would, however, become us to be modest, and not claim too much."

On the other hand, *The Ground-Glass* recalls a conversation between a photographer of the renaissance type and another of the older style. The latter was speaking of the difficulties he had to master to make ends meet, because of the multiplicity of styles he had to work to suit the varied tastes of his patrons. To him photography was, indeed, one of the hardest and most difficult means of livelihood. The other enthusiastically dilated upon the ease with which he conducted his business and secured good prices. *The Ground-Glass* readjusted its focus upon the reason for this disparity, and found it in the simple fact that the first mentioned worked his business from the standpoint of surrendering everything to meet the caprice of his patrons, while the other was master of his art and taught his patrons to respect his ability and independence, as well as pay the prices he asked for his work.

The time is ripe for better prices. Portraiture has advanced so remarkably of late years that the public begins to show willingness to pay for work that satisfies. The opening of a new season furnishes an opportunity to take fair advantage of this new spirit. Give your patrons something offering at least a suggestion of novelty in appearance, and make a stand for a price which will repay you for your work. This is a move requiring courage and enterprise in its carrying out, but it is being done, and the present furnishes an exceptional chance of success. Enter upon the fall campaign with renewed enthusiasm, and begin now to work for the holiday trade, which in a few weeks will be in full swing.

A writer in the *British Journal* gives some interesting figures concerning the salaries of photographic employés in Great

Britain. It appears that the salaries paid to operators range from $15 to $6 per week; retouchers from $15.50 to $5; assistant operators from $7.50 to $4.50; printers from $12.50 to $5. It is pointed out that while in all other trades wages have risen at least 10 per cent. during the past ten years, the wages paid in photography have declined 12 per cent. This is a melancholy showing, and goes far to explain the fact that over sixty vacancies were advertised in the *British Journal* during the past two weeks. It should not be forgotten, however, that the average British employé is behind his American brother employé in skill, and that the cost of living in Great Britain does not begin to approach the cost of living here.

THE JEX BARDWELL HOME.

(TO BE BUILT IN DETROIT, MICH.)

To the few photographers in this country who do not know Jex Bardwell, what he is to photographers and to photography, I would say that he is an old man, quite unable to take care of himself and his aged wife; he is poor and without a home to shelter his gray head. He is an honorable, upright, modest and deserving man. He has been a scientific photographer; a walking encyclopædia of photographic chemistry and formula pertaining to our art; and years ago, through his expert knowledge, he became a valuable friend to all photographers. And this was the way of it:

The Cutting Bromide Patent, which had to do with the ambrotype, and pertained to the preparation of collodion, was regarded with suspicion by many photographers. It was a burden and an injustice to all men using collodion in photographic processes.

In 1867 the first convention of photographers called in America had for its object to consider a united action to resist the operation of that patent and defeat it. This convention was held at the Cooper Institute in New York City, and out of it grew the National Photographers' Association. After a running fight of two or three years, New York, Philadelphia, and Washington all taking a hand without any decisive result, up rose, at Detroit, Mich., the hero of that patent defeat, Jex Bardwell, who carried in the "inside pocket" of his memory the documents which overthrew the alleged validity of that patent, thereby saving thousands and thousands of dollars to photographers. He was never paid even the usual witness fees. "That's what old Jex Bardwell did for photographers;" and now, photographers, ever appreciative and ready to acknowledge a plucky and unselfish act in their interest, have made a start to pool in their mites to build a home for him.

This MAGAZINE will be a receiver of contributions for the fund, and will turn over to the committee every basketful as fast as it accumulates. Let every photographer count himself "a pebble upon the beach" in this matter, and send his mite in a sealed envelope, bearing his own name and address, written in ink, and the legend "For the Jex Bardwell Home." If he can put a bank-note in, and feel right about it, let him do it. If he thinks he can't quite afford it, let him put in a few postage stamps, what he would pay for a cigar, a concert ticket, or a game of billards, *and do it at once*, before there is a chance to forget about it. Enclose this envelope in another and direct to this MAGAZINE.

Let us make this old man and his good wife happy. It will cost us nothing to speak of, and it will warm his old heart to feel that thousands of friends from every

end of the country have thought of his comfort and "seen to it."

There is a church at Wethersfield, Conn., built of onions—that is, contributions of onions. I read about it when a boy, and it lived in my mind until I was a grown man, and when I came to see it I was almost disappointed that onions, built up in mortar, did not form its walls. A house built, at least in part, with postage stamps would be quite a novelty, and the photograph boys of this country are the lads to do it.

Now, speaking direct to the boys, after you have mailed your "stamps" a sense of quiet happiness will pervade your heart, and you will find that a good-natured act is its own reward.

I have sent in my own little budget and feel reasonably content with myself. That little parcel wants company; don't let it get lonesome, boys. Just notice how much better you will sleep after it. When you can feel that in that house your contribution paid for a shelf in the pantry, a shingle in the roof, a glass in a window, or some nails to hold parts together, you may pat yourself upon the back and call yourself a good fellow.

The envelopes you send your offerings in will all be carefully kept and turned over to Jex, and the photograph boys of Detroit will club together and help him paper his best room with them.

To all my friends who are in sympathy with me, and all those with whom I am not acquainted, but would be glad to be, let this letter be my introduction, and believe me, Yours truly,

JAMES F. RYDER,

CLEVELAND, OHIO.

[EDITORIAL NOTE.—It would be difficult to add anything to the direct, warm-hearted appeal here made by the veteran J. F. Ryder for his fellow-worker, Jex Bardwell; but we desire, if possible, to add whatever force our words have to further the good work which is to give Mr. Bardwell and his wife a home and shelter for their old age. Jex Bardwell's claims upon the photographic fraternity are well understood, and the appreciation of his co-workers is assured; but what is needed is an effort to complete the Home Fund without delay. It can be completed before Christmas if our readers will send their contributions *at once*. What a Christmas gift it would be! Let us do it. Whether you can send twenty-five cents or a hundred dollars, *please send it to-day*. In our next issue we hope to publish a list of contributors to the fund, but the amounts severally sent will not be recorded, so do not be afraid to send even the smallest contribution. Do what you can to-day. Subscriptions will be gratefully received and acknowledged by this MAGAZINE or by C. M. Hayes, Woodward Ave., Detroit; Gustave Cramer, St. Louis; W. H. Allen, 247 Jefferson Ave., Detroit; J. Ed. Rösch, Olive Street, St. Louis; Geo. Steckel, Los Angeles, or the editor of the *Photo Beacon*, Chicago.]

PORTRAITURE.

BY W. A. CADBY.

THERE was a time when the word "photograph" conjured up to the minds of the majority of people, a shiny, sharp, silver print, an arbitrary definition which allowed nothing more and nothing less. It was capable of no modifications. This same "foto" grew generally on a card, and it was as well it did, as when otherwise shown it had an irritating trick of curling itself up. Even now I wince at the recollection of an ordeal undergone in my early days, when my youth prevented my re-

monstrating with a cruel friend who insisted on showing me—what seemed then—endless quantities of these curly prints, which needed our combined efforts to persuade them to unbend! When these prints of old were mounted it was possible to even increase their natural shininess, and much ingenuity has been expended in the making of machines, from which the photographs emerged with a surface that was certainly wonderful, and if it did not enhance their beauty it most assuredly enabled them to withstand the spring cleaning along with the rest of the furniture!

But thanks to our exhibitions and the photographic press, matters are mending, and now one need no longer dread the criticisms of the most chance companion when producing a print without an atom of shine. At the same time, it will be a long while before the old idea of the "foto" will leave the minds of many, especially as regards portraiture. Even now professional photographers tell us that some of their customers insist on having the shiny silver sharpness, remarking when shown beautiful carbon or platinotype prints, "Oh, they are not 'fotos!'"

Nothing more clearly marks the march of civilization with regard to portraiture than a careful study of the examples to be seen in the windows of professional workers, beginning with the lowest, not even shirking a full inspection of the productions of those enterprising gentlemen who hire a plausible man to be eloquent in their doorway—and working one's way up to those windows which are little character galleries, where one is impelled to stop and see in each portrait exhibited a beautifully executed representation of an *individual* who, one is quite sure, lives, moves and has expression. The conviction is irresistibly borne in on one that the retoucher has not been allowed to alter these faces into masks. The lines of age and the dimples of childhood are left to poetically tell their respective tales, and the results are eminently satisfactory, both from an art and a "likeness" point of view. This advance is to be seen in the right place; at the top of the tree, and it is much to be hoped that the good example may be followed even on the lowest branch, so that those—at present—all too numerous curly blossoms before referred to will wither away altogether. To drop metaphor, I am sanguine enough to believe that the time will come when even Mr. Thomas Atkins will refuse to accept a shiny mask with features unrecognizable, along with curtains, stiles, and corkwork, as a faithful representation of his *fiancée*—Cook!

In spite of much I have read, and been told to the contrary, I can never discover that Nature in her most delightful moods puts everything in sharp focus. "Niggle" undoubtedly one can often find, but only by "stopping" one's eyes down to particular objects. And so with portraiture. Who among us wants to be continually reminded of the exact pattern of his friend's coat, so long as a rough or smooth surface is suggested according to that worn? Is it good that one's attention should continually wander from his face to count the number of links in his clearly defined watch chain, or envy his dazzling collar? Artistically, it must be better to have these adjuncts—dear, of course, to the man who pays four shillings for half a dozen cabinets—reduced in importance by being suggested only, so that the attention need not be unduly attracted from the individual interest of the whole personality.

I remember reading an article, some years ago, on the late Mrs. Cameron's well-known work. The reader was given to understand that her aim in focussing was not of necessity particular sharpness nor the other extreme, but *she ceased to alter the distance between the lens and the gronnd-glass*, when, on the latter, the effect she aimed at was visible. Clearly Mrs. Cam-

eron was an early liberationist, setting an example, and herself free from the mechanical bonds that fetter alike the man who is determined on broad treatment for every subject and the one who insists on reproducing at all times all that the lens can give.

Surely one of the first things to consider in reproducing a face as it is seen is to avoid all distinct lines, in fact, anything that is over definite and hard. It is difficult to convince the man in the street that a soft delicate rendering of a face is actually more like the reality than a sharp and distinct one, which has the disadvantage of often suggesting ugly lines that really have no existence. When we succeed in freeing ourselves from the photographic primer and dare to apply the knowledge gained from it to suit the particular aim we have in view, we have taken an important step toward making our work with the camera at least original.

In this short article I have not considered the part played by the individual behind the camera, which is, of course, a far larger and more complex subject. Although his means are limited and he is beset by difficulties and hindrances on every side, yet he can transmit his own conception of a subject on to a plate. It is wonderful, but a fact all the same, that not two of our advanced workers produce the same effects. More and more individuality is what photography needs, and the easier the mechanical part is made, the more will it gain in originality. Let a portrait show not only who is the sitter, but also by whom it is taken. Surely it is no credit to the photographer that he gets a good likeness, the camera does that for him, and it is a portrait with only half an interest that shows no trace of the worker's personality.

One hears about the cranks of the new school of photography, but it is owing to them that we are getting rid of the "foto." Already the enlightened regard it with suspicion, and in a not very far future one guesses it will die out altogether, and into its place will step the portrait which will not only be a characteristic likeness of the sitter, but will also show the individualty of the worker. — *The Practical Photographer.*

THE PHOTOGRAPHERS' ASSOCIATION OF OHIO.

THE Photographers' Association of Ohio can congratulate themselves on the immense success of their Seventh Annual Convention and Exhibition, which were held on August 31st and September 1st, at Columbus, Ohio.

The Convention was called to order on Tuesday morning, August 31st, by President George B. Sperry, of Toledo. The beautiful assembly hall on the seventh floor of the Great Southern Hotel, where the Convention was held, was well filled when the Hon. Gilbert Stewart, President of the Board of Trade, was introduced to deliver an address of welcome. Mr. Stewart made a very pleasing address and was heartily applauded. On motion, the reading of minutes of the former meeting was dispensed with. President Sperry then delivered the President's Address, which was listened to with much interest. He said:

LADIES AND GENTLEMEN AND MEMBERS OF THE PHOTOGRAPHERS' ASSOCIATION OF OHIO: Perhaps I should apologize for the length of this address, and, perhaps, too, for the tenor of it. It would be pleasant to hear that our art is sailing smoothly and proudly into the haven of our desires, to believe that our Association is on the crest of a tidal-wave that nothing can arrest. I might talk glibly of the artistic advancement of our profession, and I could find

much to encourage such a theme. I might point proudly to the past achievements of this Association, and predict a succession of triumphs for the future; but I should fail in what I consider my most important duty if I did not call your attention to some of our deficiencies and suggest a remedy. Our method of conducting our business meetings, or rather our lack of method, deprives us of much of the benefit they might give us. We are very poor legislators. We have not the courage of our convictions. We allow measures that we cannot indorse to go through for fear of arousing enmity. We lack that fine diplomacy that makes us combatants on the floor and friends in the lobby. It was suggested by one of the speakers at Celoron, Mr. Bellsmith, I believe, that the members form two parties and contest the elections. This is an excellent suggestion, and we are in good shape to put it into practice. I heard a member allude to some others, who are known to advocate extreme views in lighting, as the portrait painters. Some of our best workmen do not believe that these extreme views represent legitimate photography. Here is a chance for opposition; array yourself upon one side or the other. If the Nominating Committee does not put up the men who represent your views, see that they are put up, and work for them.

For several years you have had the benefit of the best art instruction that could be secured, but heretofore too little attention has been given to technical demonstrations. It is to be hoped that your presence this year at the sessions of the school will encourage those who are giving their time and their knowledge for your benefit. We cannot, as professional photographers, afford to let our instruction be one sided. Artistic excellence can never supply the deficiencies of technique.

The untidiness of the displays has been a matter of comment among those who understand the value of environment. The setting of a portrait is so important a matter that I earnestly beseech you to give it more careful study. A better knowledge of colors and their complements, and a taste for restful tints, would soon do away with the conglomeration of effects that distress and bewilder the eye.

I should like to see this Association do something to better the social standing of the photographer. The lawyer or the doctor is accorded a standing in his community by reason of his profession. The photographer has none, save what he acquires through his own personality. This is not as it should be. Is it not a lamentable fact that the lawyer, whose success ofttimes depends upon his ability to misrepresent and deceive, whose notoriety is too often gained by his championing the cause of injustice and even of fraud, should be ranked higher in the social scale than the photographer, who can best achieve success through his culture and refinement, and whose profession fosters and encourages the cultivation of those graces that are beneficial and ennobling? I quote Mr. Bellsmith again in saying that the habit of keeping our places of business open on Sunday has much to do with our social position. We cannot make any advancement until we arouse some opposition to this degraded custom. I do not believe that legislation is the remedy, at least not as an initiative step. Educate the man; his self-respect will do the rest.

The general business depression which has been gradually settling down upon us since 1893 has apparently reached its turning-point, and we can look forward with some confidence in the hope that the fall trade will prove a business revival for us. The extremely poor business of the last six months has raised the query as to whether or no the demand for our products was not dying out, and if so what is to be the future of photography. This is a pessimistic view scarcely worth considering, and by no means warranted by the facts. People are ready, as ever, to spend their surplus dollars for whatever interests them. If the dry-goods merchant and the jeweller can interest them more than the photographer they will get more of the dollars.

To what extent is our lack of business due to lack of enterprise? If it be necessary for the merchant to expose his wares in never-ending variety, and to use every means at his command to draw customers, is it necessary for the photographer to pursue the same course? To dispose of our products must we absorb the commercial spirit of the shop? On the other hand, can we rely upon our professional dignity for support? To the artistic photographer the petty methods of the bartering salesman are very repugnant, but should he try to deal with the public as an artist he must

bear in mind these two facts, first: The portrait painter's patrons are a very small per cent. of the community. Their yearly number would scarcely give the photographer a week's business. Second, when a photographer makes a practice of furnishing more than one print from his negative he enters the ranks of the manufacturer, and gives his work a commercial rating, more or less dependent upon the value of the raw material and the cost of production, making it impossible for him to bear the same relation to his patrons that the artist enjoys. Shall we avoid both extremes and keep in the middle of the road? I do not believe in dodging an issue, but I dare not draw the line. This is a serious question and deserves your most serious consideration.

There has been some discussion as to the advisability of uniting the National and the different State Associations in such a way as to allow the State two years for convening, and the third year for the National one. This seems at first thought a fair way of disposing of the question of too many conventions, but a further study of the the matter has led me to doubt the wisdom of such a step. To give the National but one meeting in three years would, I fear, mean its final disruption. We need a National Association to give the profession at large stability and character. At Celoron in 1896, and again in 1897, was gathered together the largest body of photographers that was ever assembled. This, too, during the dullest times that they have ever known. What has aroused this great interest? For several years the State societies have been industriously distributing their leaven. It raised the attendance at Celoron. To interest a man in his local society is to give him a craving to see the greater convention.

The awarding of prizes has been a fruitful theme for discussion, some contending that as many as possible should be given, as it brings more entries and produces more interest than any other one feature of the meetings; on the other hand, there are those who condemn the practice of giving awards as wrong in theory and degrading in practice. There can be no question but that there has been a too general distribution of medals in the past. It cheapens their value and takes away the incentive for competition. If every member of this organization came to the meeting with the sole purpose of advancing the interests of the Association, and of doing his duty at all hazards, we would not need to spend money for medals. The sense of duty will never support this Association, nor does the Association want you to come from a sense of duty. It cannot hope for your support yet awhile on this basis.

A permanent home for our Association may appear to you to be a subject that has been worn threadbare, with no tangible results. It is perhaps unwise, at this time, to take any action in the matter, but I cannot forbear calling your attention to the urgent need of a permanent exhibition room for our Salon collection. We cannot hope to retain these valuable pictures intact unless we provide a place for them. I need not urge their value for public exhibition, it is apparent to all. If Columbus cannot furnish us sufficient wall space for this purpose, I think we had better shake her dust from our feet. The admission of last year's Salon pictures to the spring exhibition of the Cincinnati Museum of Fine Arts, and the very generous notice given them by the press of that city, is a public recognition that there is art in photography; and to permit this collection to be packed away, a possible prey to mice and mildew, is a disgrace to the Association and an insult to the men who have worked so hard to make our Salon the grand success that it is.

The stand this Association has taken in the matter of the higher education is deserving of the heartiest commendation, and we take no little pride in the facts that we are the acknowledged leaders, and that not only the State societies look to us for example, but even the National is copying our methods. To those who heard Prof. Beck last year, I need not urge the importance of the illustrated lecture which is to be delivered. Mr. Beck holds that the art of the portrait painter and the art of the photographer are essentially the same, and that the best school for the photographer is the modern portrait school of painting. He will endeavor to show wherein the photograph of to-day fails to meet the requirements of the artist, and tell us how to supply the deficiency.

I sometimes wonder if we fully realize the important part our profession takes in the history of the world's progress. We

know, of course, that every branch of science is indebted to photography, and that there is probably no line of industry that does not make use of its products. This is stale news, and I might say, unwelcome news, for this facility of reproduction cheapens our labor and spreads broadcast the impression that we are manufacturers merely. But we play another part that is so important that your calling should be a matter of pride to you all. The advanced civilization of to-day owes its existence to the universal dissemination of knowledge. The day-laborer of a few hundred years ago knew no pleasures; his appetite or his passions did not suggest the intelligent citizen of to-day, with a knowledge of the possibilities of life and an opportunity to enjoy them. If we were to trace the spread of the growing interest in art in this country during the last few years, we would stand appalled at its magnitude. Without photography this would not have been possible, and it is to photographers whose productions enter every home that we must look, largely, for the proper direction of this interest. Success in life does not depend upon the amount of one's bank account. The highest pleasures of life are the pleasures of the mind. Many in their pursuit of wealth have no time for these pleasures, but I congratulate you that in every sense of the word the successful photographer is the cultured photographer.

Communications were read from J. F. Ryder and Abraham Bogardus. The President appointed A. L. Bowersox, Dayton, George Smith, Cincinnati, and Ford Lewis, Celina, a Committee on Nominations, to report at the Wednesday morning session. J. Will Kellmer, of Hazelton, Pa., President of the National Association, who was present, was called on. He responded in a few well chosen remarks. F. Dundas Todd, of Chicago, then gave an interesting talk, congratulating the Association on its achievements in the past and urging the members to work upon a still higher plane. On motion, the meeting then adjourned.

At the afternoon session Professor Otto Walter Beck, of the Art Museum of Cincinnati, delivered an illustrated lecture, taking as his subject "Criticism of Photography of to-day." Professor Beck has taken a great interest in the possibilities of photography, and his talks are very instructive. He dealt largely with composition, but touched on other points also. We hope to present his paper *in extenso* later.

At the special evening session a lantern-slide exhibition of Celoron Convention pictures was given. John Schneider, of the Baker Art Gallery, was to have had charge of this part of the programme, but, owing to illness, he was unable to assume his part. As a consequence, the pictures were thrown upon the screen and commented on by those in the audience. Every one regretted that they could not listen to Mr. Schneider's criticisms.

Second Day—Wednesday.

The morning session was called to order at 10.30 A.M., by President Sperry. He introduced Jerad Bliss, of the Great Southern Hotel Company, who, on behalf of the management, extended a cordial invitation to the Association to again meet at this hotel next year. Mr. Bliss told the members that the hotel was theirs, and if more was wanted they had only to ask for it.

The Nominating Committee reported as follows:

For President, L. A. Dozer, Bucyrus, Ohio; for first Vice-President, George Edmondson, Cleveland, Ohio; for second Vice-President, L. E. Martindale, St. Mary's, Ohio; for Secretary, W. K. Van De Grift, Lima, Ohio; for Treasurer, C. L. Lewis, Toledo, Ohio.

This ticket was formally elected, and each officer acknowledged the compliment in a few words. The location for the 1898 convention was next taken up. Mr. Goddard, of Lorain, proposed Put-in-Bay. Mr. Minns, of Akron, favored the Great South-

ern Hotel, Columbus. After a general discussion the ballot taken showed Columbus to have 61 votes; Put-in-Bay, 7 votes; Dayton, 1 vote.

Mr. Lewis, of Toledo, suggested arrangements be made for an excursion to Put-in-Bay immediately after the close of the convention next year. As this was only offered as a suggestion, no action was taken. On motion, the Secretary was instructed to communicate with the Great Southern Hotel Company in regard to giving us a permanent place for our Salon.

A motion was made to appoint a committee to prepare a resolution proposing a change in the annual dues of members of the Association. This motion was adopted. and I. Benjamin, George Edmondson, and J. M. Appleton were appointed as a committee. The meeting then adjourned.

The Wednesday evening meeting was called to order by President Sperry. Secretary Dozer read the following list of awards:

Special Class: Professional Photographers outside the State. First Prize. Gold medal, C. M. Hayes & Co., Detroit. *Second Prize.* Silver medal, J. B. Schreiver, Emporium, Pa. Judges, R. P. Bellsmith, George M. Edmondson, J. M. Appleton.

Special Amateur Class: First Prize. Gold medal, Clarence H. White, Newark, Ohio.

Second Prize. Silver medal, Kate L. Mathew, Pewee Valley, Ky.

Third Prize. Bronze medal, E. J. Wehrley, Newark, Ohio.

The following classes were open to residents of Ohio only:

Grand Prize. Diamond badge, B. A. Brigden, Cleveland.

Class A. First, gold medal, T. C. Osborne, Wooster. Second, silver medal, C. S. Bateham, Norwalk. Third, bronze medal, C. L. Lewis, Toledo.

Class B. First, silver medal, R. D. Beem, Greenville. Second, bronze medal, F. C. Goddard, Lorain.

Class C. First, silver medal, Clara Paeszler, Ada. Second, bronze medal, H. A. Mowery, Ashland.

Class D. First, silver medal, J. H. Burkholder, Mansfield, first for photographic effects. Second, bronze medal, F. H. Auld, Columbus, Mr. Auld's exhibit was first in pictorial effects.

Class E. Silver medal, L. C. Overpeck, Hamilton.

Special Mention. Remarkably fine specimens of x-ray photographs, Dr. L. M. Early, Columbus, Ohio.

Special mention for excellence of exhibits. I. Benjamin, Cincinnati; J. M. Appleton, Dayton; Dozer & McClain, Bucyrus; D. D. Spellman, Springfield; Edmonson & Decker, Cleveland; and J. R. Wickersham, Urbana. None of these exhibits were in competition.

Judges. C. M. Hayes, Detroit, Mich.; J. Will Kellmer, Hazelton, Pa.; C. R. Reeves, Anderson, Ind.; F. R. Barrows, Fort Wayne, Ind.; and George Holloway, Terre Haute, Ind.

A paper by D. Bachrach, on "Printing Methods," was listened to attentively. (See other pages.) The committee appointed to amend the By-laws as to annual dues reported it advisable to leave membership fee as at present, $2.00; annual dues for proprietors and employers of help, $2.00 per year; employés, $1.00. On motion of Mr. Goddard, the report was adopted unanimously. A very interesting paper, "The Chemistry of the Negative," was read by J. M. Appleton, of Dayton, Ohio. James Inglis, of Chicago, was called upon and made criticisms on a few of the pictures exhibited. His criticisms were principally on lighting.

On motion, resolutions of thanks were offered Jerad P. Bliss and management of Great Southern Hotel for favors extended; to Dr. L. M. Early, for his excellent ex-

hibit of amateur work; to the press of Columbus and photographic publications; to James Inglis, American Aristotype Co.; G. Gennert, the Nepera Chemical Co.; Willis & Clements, and all others who so kindly assisted in the School of Photography. After a few remarks by Mr. G. Cramer and Mr. M. A. Seed on development, the convention adjourned.

Wednesday night was given over to social entertainment. Kimball & Mathews, the popular stock dealers of Columbus, furnished an orchestra and served ices throughout the evening. The time was most pleasantly spent in conversation, promenading, etc., in the convention hall and on the Great Southern Roof Garden just above.

During the convention a school of photography was conducted at the vacant studio recently occupied by Mulligan Bros. The operating-room was provided with raised seats, and all demonstrations were conducted under the light, where all could see and hear. Negatives were made, developed, and printed from. Prints were made on collodion, glossy and matt, gelatine and platinum paper, also on carbon tissue. All the processes were fully explained and were watched and listened to by large audiences.

The exhibition of photographs in the convention hall was one of the largest ever shown in the history of the Association, there being seventy-six exhibits in competition, and a number of complimentary exhibits. The quality of the work shown was much above the average. The Salon was, as usual, the principal attraction; thirty-three pictures were hung in this collection, selected from the numerous exhibits shown.

The Ohio Association has reason to be proud of its Salon. A movement is on foot whereby this exhibition will have a permanent home where pictures can be hung as rapidly as they are selected for this purpose.

The Association feels grateful to Messrs. Hollinger & Rockey, of New York, for a half-dozen beautiful examples of their portraiture; also to the professional photographers outside the State who exhibited in the Special Class. There were some twenty-five exhibits in this class, representing the leaders of the profession throughout the country.

The amateurs were also well represented. A large number of beautiful pictures were shown in this division. The pictorial value of many of these was remarkably high.

The trade was well represented, and all seemed well pleased with the convention, and reported numerous sales.

Taken as a whole, the convention of 1897 was, without doubt, one of the best and most profitable ever held in the State, and those attending were loud in their praise of the management and success of the affair.

L. A. DOZER,
Secretary.

BUCYRUS, OHIO.

ECHOES FROM FRANCE.

BY CH. GRAVIER.

SINCE our last Echoes the famous process of photography in color has continued to *agitate* the speculators who seek the exploiting of some of the generally ephemeral schemes of the Paris Bourse. Some of them have promptly realized their profits, and the dupes of the journal sent *gratis* are still numerous.

I must relate to you a curious experience I had a few days ago: I had seen on the most frequented part of the boulevard, a poster, more than three feet in height, ad-

vertising a company interested in a well-known color-process. Wishing to obtain further details, I entered the house and reached some empty rooms in which fixtures were being put up. In an adjoining room I found a young gentleman seated at a table tinting some photographs. The young man had before him a stand such as is used in restaurants for the salt, the pepper, and the mustard. Instead of these ingredients there were three glass vessels, one containing a blue liquid, another a greenish-yellow liquid, and the third a red liquid.

The gentleman, to whom I made known the object of my visit—the desire of having a demonstration of the color-process—said that he was making preparations, and that he would send me word when public trials were to be made. I then addressed to him some questions for the purpose of getting his explanations on the subject. He replied as follows: "The inventor sells us a liquid which you see here, showing me a turbid compound contained in a glass; we pass this liquid over the photographic print to be colored; then, with a brush, we apply successively the colored liquids which you see, the composition of which is the secret of the inventor." "But can this be done with any print, or is it necessary to take a print especially prepared?" "No," he replied, "I cannot cause tints to come where they do not exist. See this photograph, I do not know where it comes from, I have just colored it," and he showed me a print of a landscape over which he had just passed a general tint of a dirty green. "But what difference is there between this process and that already in use for the application of colors?" "The facility with which the color may be spread," he answered, "it is so easy that we think it will become very popular."

After this explanation, the candor of which is commendable, I took my leave with a friend who had accompanied me, and who admitted that he had never heard of anything more laughable. It is, therefore, for the purpose of more easily coloring photographic prints that the high-standing vocabulary of physics has been made use of.

I will send you soon the first specimens of this gigantic "enterprise," which has extended its ramifications perhaps as far as Japan, captivating intelligent men in all the different countries where it has been exploited.

The question of photography in colors will, apparently, always prove a veritable mouse-trap in which each new bait will find victims.

Another society is now being formed for the purpose of exploiting a *new* process. The capital of 500,000 francs, it appears, has been entirely subscribed by well-known persons. The necessary rooms are now being prepared. I have not been able yet to obtain the exact details, but I hope, however, to be able to send them in my next Echoes.

I mentioned in my last that in the dreadful catastrophe at the Charity Bazaar of Paris it was possible that an imprudence had been committed; we now know that the operator of the cinematograph had filled the ether saturator and used matches for a light. In such circumstances the liability of accident must always exist; whenever an inflammable liquid or gas is used accidents will invariably result from imprudence. But such things also happen in the use of electricity or oxygen for projection.

Recently the operator of a professor of physics was seriously injured by the explosion of a cylinder containing oxygen; in consequence there is question of no longer tolerating the use of these cylinders in lecture-rooms, the reservoirs being placed in an adjoining room from which the gas is conveyed to the lantern by tubing. These are useful precautions, but interfere some-

what with the popular use of projection instruments. Methods of utilizing the acetylene and alcohol are still being studied, and now acetone falls in line. As it is as volatile as ether we do not see what advantage there is in its use, the price being higher.

The influence of the bicycle on the photographic business has ceased to be injurious. Those who at first had abandoned photography returned to it, and many cyclists, induced by example, after having made excursions which left in their minds but few souvenirs, are now beginning to take their instruments with them. Naturally cameras of portable form are adapted, but if the manufacturers of instruments made them lighter, if opticians furnished objectives weighing less, and if makers of stops made them less in weight, a return would be made to instruments of reasonable size in which gelatine bromide plates or films are used. In fact, we no longer see in the exhibitions those beautiful prints obtained from negatives taken with art and study; instantaneity has taken the chief place, and prints larger than 5 x 7 inches are simply enlargements, more or less blurred, from small negatives. To enlarge these small negatives each manufacturer has suitable apparatus for the purpose, and some are very ingenious. If we examine the question of expense we find that the small instruments reach actually a higher price than the current instrument, 5 x 7 inches.

We have already mentioned the success of Velox paper in this country. The French representative has displayed great activity. It is well known that for a long time we have advised the use of developable papers on account of the rapidity of their manipulation and the permanence of the prints. It has been said that the addition of a small quantity of iodine to the developer for gelatine bromide prints gives more intensity to the image. It is evident that this must be so. Iodide of silver is formed, and we know that the reduction of the iodide of silver produced under the action of the developer yields a darker residuum than the bromide of silver.

SURFACE-STAINS ON GLOSSY DEVELOPING PAPER.

BY DR. LEO BAEKELAND.

In September, 1896, on page 388 of this Magazine there appeared a few lines by me about so-called "surface-stains," which often occur on bromide paper of the glossy or enamelled variety. Glossy Velox paper especially is very liable to show them. At that time I had satisfied myself as to the origin of these stains. By direct experiments I had been able to determine that they were produced by friction or pressure, especially when the paper was very dry. These surface-stains are the terror of the practical photographer, inasmuch as they require much extra work in order to remove them. I published a method, which has been generally used since, and which consists of rubbing the dry print by means of a tuft of cotton dipped in wood-alcohol. This is sometimes rather tedious work, and involves labor for which the photographer is not generally prepared. Therefore some photographers prefer to remove the stains by brushing over the print a solution of cyanide of potassium. This chemical, however, is rather dangerous to handle on account of its poisonous properties. I find that the very easiest way of getting rid of them is to use "Farmers' solution" in very diluted condition. For this purpose take a 10 per cent. solution of hypo, and add a few drops of a concentrated solution of ferricyanide of potassium (not ferro-

cyanide), sometimes known under the name of red prussiate of potash. The more ferricyanide you add the quicker will be the action of this solution; the mixture has to be made immediately before use, as after a very short time it fails to exert any action. This solution works also as a reducer, so that if the prints are left in it too long they will bleach or lose their half-tones. Therefore the operation has to be watched carefully. Ordinarily a few seconds' time is all that is required in order to remove the surface-stains, and as soon as they have disappeared the prints should be at once immersed in an abundant supply of water. In case there is any indication of the half-tones being lost, local application of this liquid can be made in such places where the stains occur. This can be done by using either a brush or a tuft of cotton.

Prints can be submitted to this treatment at any time; for instance, after they come out of the fixing-bath, or after they are dry; but in any event it is necessary to submit them to a thorough washing when they come out of this clearing bath. The latter has, furthermore, the advantage of producing very clear whites, and in some instances where, on account of over-exposure, the print is too dark, it can be reduced down exactly to the desired density.

LABORATORY OF THE NEPERA CHEMICAL CO.,
NEPERA PARK, N. Y.

August 25, 1897.

PAPERS FOR PROFESSIONAL PHOTOGRAPHERS.

BY JOHN A. TENNANT.

XXIX. INDIVIDUALITY..

AMONG the great mass of twaddle spoken at the Celoron Convention there were a few things said which deserve repetition and emphasis. One of these was the assertion, by Pirie MacDonald, that "there is such a thing as complete individuality in work, and that one piece can as well represent the man as a dozen"—facts as old as the hills, but revolutionary in their application to the professional photography of to-day. Taken together, they form the keynote of the renaissance spoken of in my last paper, and the time is ripe for their practical application. Always assuming the right man in the right place, I am convinced that the photographer who will set himself to the understanding of Mr. MacDonald's statement, and follow the lines it suggests, can within a year or two double the prices he is now obtaining for his work. This is a practical end, and there is abundant room and opportunity for its accomplishment, so that its discussion falls within the scope of these papers.

Individuality is simply distinctive character; in work it is the character stamped upon the work, and indivisible from it, which separates it from all other work of the same general class. Work possessing this quality has a higher value, and, therefore, brings a better price than that in which is apparent only the characteristics of a common type, just as a painting has a higher value than a machine-made chromo, unless the work of the man falls below that of the machine. Necessarily this distinctive character proceeds, as from its source, from the individuality of the one producing the work, and its comparative value depends on the perfection of that individuality. Every man has his own individuality, but it is not always observable in his work. Sometimes it is so weak that its impress is not apparent; sometimes it is suppressed by the power of a stronger individuality which the man

follows, either in preference to or oblivious of his own. It is not enough, however, to show individuality in one's work; it must have not only power to attract attention, but a certain grace or charm which will hold the attention and make the thing in which it is expressed to be desirable.

A man must appreciate his individuality and be free to express it, before it can be apparent in his work. In this we see one reason why portraiture of the average sort has fallen into disrepute. Few photographers appreciate their individuality, and so it is rarely seen in their work, the majority being content to follow in the track of others rather than to make tracks for themselves. Here we see also one reason for competition in prices, one photographer's work being so much like another's that the outsider bestows his patronage according to price. If every photographer would strive to put individuality into his work there would be seen a vital difference between his work and that of his neighbor, and the question of price would not then be as important as it is to-day. The practical truth of this is seen on every side. Look at the few men who appreciate their individuality and strive to give it expression—Cox, Hollinger, Steffens, Strauss, Stein, Falk, Rösch, Sarony, Appleton, etc.—all leaders in the profession, and generally working at their own price, regardless of competition.

This is not to say that the success of these men is wholly due to their individuality, many factors being essential to success in business; but that it is a factor which the progressive photographer of to-day cannot afford to ignore.

Look at the work of the average photographer. As far as technical quality goes it may often be as good as that of any of the men I have mentioned; but, apart from that, it has merely the distinctive character of its class. Such work is rightly classed as "photographic;" it has nothing of the personality of its maker in it, but is simply the outcome of this or that photographic process intelligently worked out. On the other hand, take the work of Falk. It shows good technique always, and artistic feeling; but apart from these, there is instantly recognizable an individuality which gives it an added value over that of another photographer content with what he justly calls "good plain work." The important point is that a large section of the public prefers Falk's work to that of the other man, because of its personality.

The photographer, therefore, who seeks success in portraiture must first of all realize his individuality, and cultivate it until its impress makes his work attractive in the eyes of the public. This is an easier way, after all, than the "good plain work" plan; it brings better prices and gives the photographer higher standing in the community, elevating both the man and his profession.

How shall a man cultivate his individuality? It is a great work—the building of a character and its perfecting; but it brings great happiness with it, and, what is more, it pays, if its expression is rightly directed. It brings into business three things which are seldom thought of as essential to success in photography—courage, culture, and persistence; courage to free one's self from all preconceived notions, culture to fit oneself for the new ideals, and persistence to hold on until the new individuality wins due recognition.

Think for a moment of the things which confine individuality in photographic portraiture, the ready-made background, the posing chair, the fixed sizes in pictures and mounts, and the notion that photographs must be made by the dozen, half-dozen, or quarter-dozen. I used to wonder, years ago, what would happen if a photographer began in business without these ideas. To-day it is being done, and the movement meets with success. Why not join the

movement? Of course, it will be said that the public demands "good, plain photography," and not the other kind. This is natural; the public has so far known only the old style. The public, however, is always open to conviction, and has always known a good thing when it has had a chance to become acquainted with its good qualities. A few years ago the fraternity ridiculed the idea of platinotypes or platinum tones winning public favor; today seven-tenths of the best portraiture is finished in this way. Did the mountain go to Mahomet, or Mahomet to the mountain? That there will always be "unprogressives" among the public and in the fraternity is certain, and their preference of the old style is equally assured. But why not let "birds of a feather flock together," and come up higher if you have the aspiration. There is always most money, as well as most room, at the top in any profession. Cultivate your individuality and give it free expression.

NEWS AND NOTES.

An International Photographic Exhibition which promises to be the most complete, representative, and interesting exposition of the kind yet held, will be opened at the Crystal Palace, London, in April, 1898. The affair is to be under the auspices of the Royal Photographic Society of Great Britain. Photographers or photographic manufacturers desirous of exhibiting their products at this exhibition can obtain copies of the prospectus at the office of this Magazine.

The metric system of weights and measures has been made legal in Great Britain by Act of Parliament.

Anti-halation backing. An easy way of backing plates for the avoidance of halation when interiors or brightly lighted landscapes are to be photographed is to use the deep red tissue paper used for making artificial flowers. The paper should be cut to the size of the plates to be used, dipped in castor- or heavy paraffin-oil and rubbed into contact with the glass side of the plates with the finger.

Alfred Chardon. The death of this old and well-known photographic experimenter is announced in the French journals. Mons. Chardon was a pioneer in emulsion work and had latterly given considerable attention to the perfecting of Poitevin's helichromic process.

A Popular Picture. The London *Daily Chronicle* reports that over 25,000 copies of a photograph representing Wilson Barrett and Maud Jefferies in the *Sign of the Cross* have been sold during the past two years.

W. H. Harrison. The English journals announce the death, August 10th, of Mr. W. H. Harrison, for more than thirty years an active worker in scientific photography, and a voluminous writer on photographic subjects. His death leaves a gap which will be filled with difficulty. Mr. Harrison was for some years editor of the *Photographic News* and European correspondent of Anthony's *Bulletin*.

British Humor. Like some other British photographic papers *Photography* loves to have a fling at men and things American. In a recent issue it laboriously dissects the Celoron Convention in two-and-a-half closely printed pages, attempting to draw humorous comparisons between the American and British conventions. The *critique* is chiefly notable as an exhibition of bad taste and for the deadly dulness of its wit. *Verbum sap.*

F. G. Schumacher. *Los Angeles.*

A LADY OF FASHION.

POSING, LIGHTING, AND ARRANGEMENT.

BY THOMAS AQUINAS.

It is said that "in the multitude of counsellors there is wisdom," and I suppose it must be so; but when everybody talks at one time there is bound to be confusion, and something is apt to be "lost in the shuffle." Just now we are trying to digest the combined wisdom of a half-dozen conventions, Mr. Inglis on *Artistic Lighting*, and a score of enthusiasts wildly proclaiming a "renaissance," which is to evolve into the millennium. The task is not an easy one for the plain, matter-of-fact photographer; in fact, with some of the weaker brethren, I begin to think that life is all too short and art all too long for most of us. The trouble is that all the reformers commenced talking at once, and, to make matters worse, they plainly intimate that there is a great deal more to be said.

I have no quarrel with what these estimable men have said. There is a goodly proportion of truth in it all, and some very useful ideas. But what I like most in them is their enthusiasm. *That is the thing*—more important than all their art jargon. Look at Griffith's addresses at Celoron and elsewhere. Take out the oratorical flowers, wild-fire, and observations on things in general, and what remains so completely admirable as the enthusiasm of the man. Take up Inglis's new book. It is excellent, worthy of reading and re-reading; but the thing worth noting above all else is the absolute conviction of the man that what he teaches is right, in spite of the illustrations in the book. Finally, look at the "renascents" and their work, and see beyond the "crank notions" and odd effects an enthusiasm in their vocation which will surely carry them to success in spite of themselves.

S. L. Cassar, Malta.

CHILDREN—AT THE STUDIO.

Now to my subject. It would seem, at first glance, unnecessary to point out that in dealing with the sitters of a day, each subject demands separate and peculiar treatment. Yet the confusion created by the preaching of the new gospel has obliged

S. H. Parsons, Newfoundland.

THE DREAMER.

me to recall this primary fact very often in my practice of late. Of course, like many another, I put aside my screens and such "truck" when I began to pull in line with reform. But a few weeks' experience told me that Inglis effects and "art for art's sake" were not of universal application. What with dark-grounds and aristo-platino, my work took on the appearance of a respectable funeral. My old men's heads were fine, but the women and children seemed to lack daintiness and grace. They were too solid and sombre. So I swung back into a lighter vein, diffused my light, got out the light-grounds again, and keyed the work up to a more natural tone. The lesson was plain: appropriateness of treatment to the subject was more important than mere pictorial effect. There must be variety, and we must ring the changes to get it. Look at these children's pictures by my friend, S. L. Cassar, of Valletta, Malta. The engravings fail to give their delicacy of technique, but the work is full of the frolic and grace of childhood. There is no need to speak of artistic value, for we can see that these pictures pleased the mothers; and this is the highest end of

S. L. Cassar, Malta.

CHILDREN—AT HOME.

picture-making of children. It draws business, and that is what we are after. There is variety in them: good lines, "taking" poses, and naturalness of arrangement. Who wants more? Looking at them for the first time, I felt glad that the photographer kept his ultra-artistic ambitions in the background. Do you agree with me?

It is an important item, this infusion of appropriateness in the treatment of one's sitters. It gives, or helps to secure, naturalness and likeness. Everybody has a predominant note in the composition of their personality. If we get that we are likely to please the sitter and the sitter's friends. If we don't get it, all the artistic lighting in the world will not make our pictures business-bringers, as they should be. Look at this little picture of "A Winter Queen," by Mr. S. H. Parsons, of St. John's Newfoundland. You will observe how well he has managed not only to get a good line, to fill his space, and to light his subject, but also to convey to us the characteristics of the sitter's personality. It seems probable to me that this girl never looked quite so like herself as she does in this picture. See, too, how much of the photographer's

S. H. Parsons, Newfoundland.
A WINTER QUEEN.

D. D. Spellman, Springfield, O.
PORTRAITS.

success was gained in the opposition of tones; by this he gave sparkle and a suggestion of contrariness, which adds to the charm of the portrait. It is a good piece of work, and I am sure it pleased those for whom it was made. The second picture I show from Mr. Parsons's studio, although altogether different from the first, is equally pleasing. Here the light has been diffused and softened to suit the mood of the child. The pose is simplicity itself; the support for the figure is apparent without being obtrusive, and the lines are graceful. I cannot help feeling curious to know what a disciple of Inglis would have done in making this picture with his "light full, glorious, and resplendent."

There must be variety. In men's heads, and it is generally "heads" where men are concerned, we want strength and character. For this kind of work I am as enthusiastic a renascent as the rest of them. But I like modelling, and find that it does not pay to leave too much to the sitter's imagination. Pure, unadulterated lights and shadows are right in their places, but I follow Ruskin in his teaching, that the points of absolute white or black in a picture should be simply points and not areas. Take the three heads by Mr. D. D. Spellman, of Springfield, Ohio, as examples. You will agree with me that, from the standpoint of illumination, the middle picture is the most pleasing of the three. The engraving lacks the tips of light needed to give brilliancy, but the original had them. In the other two pictures there has been too strong a concentration of the light, and the modelling of the face is lost in part thereby. The point is worth remembering that form may be softened and values rendered by gradation of tone, but they should not be lost either in too intense light or in shadow. As far as line is concerned, the right hand portrait of the three is the most excellent. Here the opposing masses of light and dark have told their story to fine advantage. The *contour* is rugged but quite characteristic; the torso has the roundness and fulness of life; the head sits easily upon the shoulders. The picture at the left-hand is suggestive as showing the difference in expression and likeness brought about by simply a turn of the body. Much of all this applies also to the second trio of pictures shown from Mr. Spellman's studio. He has caught the grace of his subjects, but the right- and

D. D. Spellman, Springfield, O.

PORTRAITS.

left-hand pictures would have been softer under the old diffused-light treatment. I should explain, however, that the originals from which these engravings were made were carbons of a green tint, and so the half-tone fails to render them properly.

eminently suited to this class of subject, vigorous in line, bold in lighting, expressing character and giving what is most desired in such cases, the mind of the man. Portray a subject such as this in a high key, and you will lose all. Diffuse the light,

F. H. Dodge, New Brunswick, N. J.

REV. DR. S. M. WOODBRIDGE.

The portrait of Dr. Woodbridge, sent me by Mr. F. H. Dodge, of New Brunswick, N. J., as an attempt to realize the renaissance in portraiture, gives us a good example of the "Vandyke style" of which Mr. Rockwood has recently written. It is

attempt a pose, and throw in some accessories, and the picture will be "a stumbling block and rock of offence" to all who see it. The imagination wants room to play here because the man is so interesting. What does Mr. Dodge's portrait tell

us? It gives us a man who has had "the cure of souls," the theologian, the stickler about doctrine and ecclesiastical polity, a teacher of men. The record of his life, which I had the opportunity to look over a few weeks ago, shows how completely the portrait reveals the man. Professor Samuel Merrill Woodbridge graduated at the University of New York almost sixty years ago, and has since devoted his life to pastoral work, the teaching of theology, and the writing of works on divinity.

The example of this style, from the studio of Mr. W. M. Morrison, of Chicago, which I give here, is a much better piece of work than that in Mr. Inglis's book, and shows the advantages of the method in a clearer way. The picture reveals the manner of its making so plainly that no explanation is necessary. It should be noted that the quality of relief or solidity lacking in the Inglis example has been secured in Mr. Morrison's picture by a subtle opposition of the half-tones against the lights, as

W. M. Morrison, Chicago.
ANNA KISSELLE.

When we have young womanhood and outlines approaching classical standards, Rembrandt lighting, so called, as spoken of in Mr. Inglis's book, offers an effective manner of treatment. As a method of lighting it has little in common with that observed by Rembrandt except in the use of concentrated light from a single source, opposed by broad masses of deep shadow. where the chin impinges upon the strongly illuminated shoulder, the light draperies against the semi-dark of the bust, etc. The variety of the interior lines also has to do with the charm of the portrait, as will be seen by comparing it with the picture facing page 26 in *Artistic Lighting*.

I have reserved the last word for an example of the advantages of the "dark

vignette" for group-work. A glance at the group of young ladies, by Mr. Spellman, discovers the helpfulness of this device to cut away undesirable lines in draperies where several figures are placed in confusing proximity. The use of a dark ground is, of course, indicated here as a means of graduating the harshness of the vignette. This group is effective in its arrangement, the elliptical form affording a pleasing line when light is to be surrounded by dark, and *vice versa.*

In all these examples we see, what I started out to show, that in everyday portraiture variation is essential, in style, in treatment, in the use of grounds, and in arrangement, and will, in the end, be found of more general utility than adhesion to any one peculiar method of lighting or posing.

D. D. Spellman, Springfield, O.

A SELECT COTERIE.

THE WASHINGTON MONUMENT AT PHILADELPHIA.

Two memorials of national importance have been completed during the year: Grant's Tomb, at New York, and the Washington Monument, recently unveiled at Fairmount Park, Philadelphia. We are glad to be able to offer an engraving of the latter work from an excellent photograph sent us by Robert Newell & Son, 633 Arch Street, Philadelphia, who are among the most famous of our outdoor photographers. Messrs. Newell sent us three distinctly separate views to choose from for our pages, and in all there is the same combination of good technique and effectiveness which we see in our engraving. These originals are about 10 x 12 inches in size, and show the fine details of the sculptures about the monument in a very satisfactory manner. We append a brief description of this magnificent memorial of Washington.

The monument stands at the Green Street entrance to Fairmount Park. From an oblong platform six feet six inches high, of Swedish granite, and reached on four sides by thirteen steps, symbolical of the thirteen original States, rises a pedestal bearing an equestrian statue in bronze of General Washington. The father of his country is represented in the Colonial uni-

R. Newell & Son, Philadelphia.

WASHINGTON MONUMENT.

form of the American army, a large military cloak being thrown artistically around his commanding figure. While dignified, the whole conception is full of animation. In his left hand Washington holds the reins of his horse, one of the animal's forefeet being raised in the act of moving. At the four corners of the platform are fountains, served by allegorical figures of American Indians, representing four rivers—the Delaware, Hudson, Potomac, and Mississippi. On the sides each of these fountains is guarded by typical American animals, eight in all. At the front and back of the pedestal are two allegorical groups. That on the front represents America, seated, and holding in one hand a cornucopia, in the other is a trident, and having at her feet chains just cast off. She is in the act of receiving from her victorious sons the trophies of her conquest. Below this group is an eagle supporting the arms of the United States. The group in the back represents America arousing her sons to a sense of their slavery. Below are the arms of Pennsylvania. On the sides of the pedestal are two bas reliefs, one representing the march of the American army, the other a Western-bound emigrant train. On one side the pedestal bears the inscriptions, "Sic Semper Tyrannis," and "Per Aspera ad Astra;" on the other, "Westward the Star of Empire Takes Its Way." Surrounding the upper portion of the pedestal is the legend, "Erected by the State Society of the Cincinnati of Pennsylvania." The equestrian statue, the figures and the bas relief, as well as the numerous other ornamentations, are of bronze, while the platform and pedestal are of Swedish granite. Professor Rudolph Siemering, the artist whose design was chosen, is a celebrated sculptor of Berlin. The monument cost over $250,000.

The photographer can get a useful lesson in composing such a subject as this by careful study of the illustration. It will be observed how the lines have been chosen to show dignity and action, as well as to give true perspective.

OUR PICTURES.

In the pictures of this number of the Magazine our readers have an opportunity of seeing examples of the studio work of seven progressive photographers. Five of these are Americans; one is the leading professional of Malta, and another ranks first in Newfoundland. To add to these the spice of variety we have also engraved the beautiful composition "The End of a Summer's Day," by Mr. L. V. Kupper, Edinboro, Pa., which was so enthusiastically admired at Celoron.

The admirable portrait of Emma Eames, by Mr. B. J. Falk, of our city, is selected from the vast collection of portraits of celebrities which forms so attractive a feature of Mr. Falk's studio. Those who are desirous of studying a piece of work faultless in technique, simple in pose, and effective in general arrangement will find it in this portrait. The print is on Velox Carbon paper, manufactured by the Nepera Chemical Co., Nepera Park, N. Y., and again proves the adaptiveness of this paper for portrait work where large quantities of prints are required.

"A Lady of Fashion," engraved as an inset, is reproduced from a selection of the recent work of Mr. F. G. Schumacher, of Los Angeles, Cal. It is a fine example of portraiture, and like Mr. Falk's "Emma Eames," shows that simplicity is the safest and most direct way to success when photographing beautiful women.

We have previously praised Mr. L. V. Kupper's landscape work, but he has so far surpassed himself in "The End of a Summer's Day that we feel like beginning again. In this picture Mr. Kupper has used the simplest elements of landscape work to portray a scene full of exquisite feeling with complete success. As our readers know, this work is simply a hobby with Mr. Kupper—a diversion from his regular professional work under the skylight. We have long taught that the photographer can find a wonderful help in his daily work in an occasional day with nature and the camera. Mr. Kupper echoes this in a recent letter, wherein he states that "every hour spent out-doors with his camera or finding-glass gives him many valuable pointers applicable in the studio."

S. L. CASSAR.

The specimens of portrait work from Messrs Cassar and Parsons have a special interest, coming as they do from studios remote from stock-houses and conventions. Mr. Cassar has a beautiful studio on the Strada San Giovanni, in Valletta, Malta. His business, in which his brother and he have been associated for many years, brings him in touch with a *clientèle* remarkable for its cosmopolitan character. Tourists from all parts of the globe, officers of the

British army located in Malta, and of the naval vessels of all countries passing through the Mediterranean, together with the aristocratic people of his city, comprise his subjects. A skilful and enterprising photographer in many varied branches of work, his delight is in the children, and his success with them is seen in the few engravings we offer on other pages. Mr. Cassar is an enthusiastic admirer of the work of American photographers, and expresses, in a recent note, warm praise for the wonderful portraits produced by his co-workers in our country and of the enterprise of American studios and manufacturers of photographic specialties.

Mr. Parsons, of St. John's, Newfoundland, has hitherto been known to our readers by his landscape work. We are glad, therefore, to offer specimens of his portraiture showing that his hand has not yet lost its cunning after a quarter of a century's continual work in and out of the studio. His studio is, perhaps, one of the largest and most complete within our knowledge, covering a large share of a city block. A branch studio in another part of the city is conducted by his son.

"A Glimpse of Hilltop Farm," Littleton, N. H., is a view of the summer home of Mr. W. I. Lincoln Adams, the President of the Scovill & Adams Co., of our city. It hardly gives an adequate idea of the hilltop, which reaches a considerable elevation. The snowclad summit of Mount Washington, with the Presidential Range, about twenty-five miles distant, can be seen from one side of the place, while in another direction the eye discerns the Green Mountains of Vermont and the Connecticut River. Those acquainted with Mr. Adams as we knew him a few years ago, a lover of the æsthetic side of nature and a studious young editor, will doubtless be surprised to hear of his excursion into practical farming as a summer hobby. Hilltop Farm, however, comprises about 225 acres of woodland and pasturage, including a "sugar orchard" of about a thousand sugar maples, and considerable farm stock. We wish him all happiness in his relaxation.

The portraits by Mr. D. D. Spellman, of Springfield, Ohio, are offered as the work of a photographer striving earnestly after perfection in his vocation. We have watched Mr. Spellman's growth of late years with much interest, and predict for him an honorable place among the leaders of the craft ere many years have passed.

A GLIMPSE OF HILLTOP FARM, LITTLETON, N. H.

PRINTING METHODS.[1]

BY D. BACHRACH.

I HAVE been requested by your President, Mr. George B. Sperry, to write an article upon this subject, which I have worn threadbare, so far as my abilities are concerned, in previous articles. If, however, anything of interest can be evolved from a repetition of the facts in the case, I shall be happy. The same may be said of almost all subjects bearing on technical manipulation in photography, and if three-fourths of all the literature upon the subject were at once suppressed, the remainder would still do the profession full justice, and a mass of useless repetition and verbiage would be avoided.

Before proceeding to the pitch of what I shall say on the particular method to be advocated, I must beg indulgence for first giving a general review of the methods at present in practice.

It will go unchallenged that the ideal methods in use are the carbon and platinotype, the results by the former being absolutely without a rival in all the qualities that are desired. I wish it were equally well acknowledged that the methods in most general use, the glossy emulsion print-out papers, are one and all most pernicious in their effects upon the financial and moral standing of the profession. In this general condemnation, arrived at from close observation since the introduction of these papers, and from a two-years' use of both kinds of emulsion papers (which I would pay well for, if their effects could be wiped out), I do not mean this or that brand of paper, but I sweep all into one general heap. If a platinotype, with its matt surface and well-defined grain and breadth, is the ideal printing paper, then what is the smooth, ironed-out, looking-glass surfaced gelatine print, the very opposite of the other? The same is true to almost a similar extent of collodion emulsion prints.

The second unfavorable view of the case presents itself in the fact that the same class of negatives cannot be used for both kinds of prints. They must be radically different. Turning to the financial aspect of the subject, we have the fact that the poorest kind of negatives will make a passable print on the emulsion papers, and that the prints themselves are comparatively easy to make by the most ignorant, if the combined toning and fixing-bath be used. In the matter of the effect on the standing of the profession, what must it be, I ask, when we consider the wholesale fading out, peeling off, and what not, of the mass of the prints made on these papers? This point is not open to dispute, as the evidence can be gathered by the bushel-basketful in every part of the country. I boldly say that there are now in existence more badly faded prints, made in the last five years, than there ever has been from the twenty-five previous years of albumen printing. The value put by the public on our products may be readily imagined, with the facts as stated. I will make one exception to this broad, sweeping condemnation. The matt collodion papers, rich in silver chloride, when strongly printed and toned with platinum to the black stage, are as permanent as a well-manipulated albumen print, with the one exception, that the prints are easily and fatally injured by rubbing against each other, or by any other rough usage, unless kept in separate enclosures. There may, perhaps, be a remedy for this, easily applied, but so far it has not appeared. The popu-

[1] Read before the Ohio Convention, August 31st and September 1st.

larity of these matt collodion prints, and the fact that they require the same class of negatives as platinotype and carbon paper, may be the means of eliminating these evils out of our profession.

Of course, I am prepared to hear that the papers have not been manipulated right, or that one ought to use this or that brand of paper, and that some prints exist that have been out in the sun for years, etc. Against all this I merely point out the facts, and the faded prints are almost as prevalent among those of respectable and reputable establishments as among those of less prominence, while, remarkable to state, the results on albumen paper in previous years by most ignorant manipulators do not show a tithe of this evil. It is also remarkable that emulsion pictures put away and not exposed to sunlight, go as fast, or faster, than those that are so exposed. I will explain, as an actual fact, that one gelatine chloride emulsion does not materially differ from another, nor one collodion chloride emulsion from another. The proportions of silver nitrate, chlorides, and organic acids must be maintained in a certain way to make successful prints. I have fully explained, in an article written over a year ago, the results of an experimental assay of fifty of each kind of emulsion prints and of fifty albumen prints.[1] It tells its own story as to probable stability. The fact stares us in the face that less silver is produced in the operation of printing with emulsion papers, and, in consequence, less gold is formed in the final image. As to the relative stability and liability to chemical change of the mediums employed in holding the salts of silver, coagulated albumen or hardened gelatine, the weight of evidence is certainly not on the side of gelatine. While collodion would seem to be without objection in this particular, our experience with emulsions made with it, and printed under the most promising conditions on opal glass, is not a flattering one. The mass of them have faded. With all these facts staring us in the face, it may be asked, why not eschew all except the most undoubted methods first mentioned, carbon and platinotype? Theoretically we might assent to this proposition; but in a practical sense we must say no. For the mass of people who must have work done at a moderate price and of fairly good quality a printing method is necessary that can be mastered by the average printer, and one that is essentially a "print-out" process, one in which the process of printing may be watched at all stages.

Having gotten this far on the road to finality, I will give a late experience that has led me to the point I am about to illustrate. A neighbor of mine, a German, lately called me in to examine a collection of photographic portraits, cabinet size, that he had received in the last few months from Germany. They were portraits of relatives by a prominent Bremen photographer. They were a revelation to me—a pleasant surprise; plain, everyday, natural posing of plain people, but good subjects, lighting that brought out modelling, no garish or strained effects, artistically retouched, not ironed out, pictures having the solidity and softness combined that reminded me of the old wet-plate effects, with the "bloom" in the half shadows we used to strive for so hard. But what struck me most of all was the exquisite clearness of tone, neither foxy nor inky blue, nor any of the rainbow hues we see at times in emulsion prints. A closer examination revealed the fact that they were old-time friends, prints on single albumenized paper, with the surface of the finest smoothness made with the hot-plate press, not a looking-glass polish. I said to myself, this is what we must return to for solid, reliable work. We must in this case "look backward."

[1] See page 140 Wilson's Photographic Magazine, 1896.

Photographers, now is the accepted time. We are again making "good" negatives, not mud washes, suitable for platinotype, carbon, and matt surface prints, and elegantly suitable for our old-time friend. If I can ever approach such work as that spoken of, the sight of which made me feel, as I have often felt before, like destroying everything I had and commencing anew, I should be well satisfied. The beauty of it all is that excepting carbon and platinotype prints, well-manipulated single albumenized-paper prints are the most permanent products of our art. Time has proved this. We avoid the blistering of the heavy double albumenized paper; they are not so difficult to tone or as liable to "measles;" and they retain the half-tones of negatives better than any of the emulsion papers.

While on this subject, with which I am familiar from my early experiences, let me give the few simple requirements necessary to success. First, as to the paper. There are good single albumen papers on the market now, but they are far from being perfect. It strikes me that, in order to get the coating even over the entire surface, instead of being heaviest on the ends drained, it would be best for manufacturers to coat with a thinner albumen and drain off at one end, then coat again and drain off at the other. In other words, to coat the paper with two thin coats instead of one that is heavier. Again, they might be made a little stronger in salting, and much weaker in the lilac, pink, pense, or other tints or dyes, which fade out by a little exposure to light, to the evident disadvantage of the print. Then there are two ways of sensitizing. The modern or American method of a forty-grain plain silver bath and fuming with ammonia, or the old method (at present mostly used in Germany) of a plain, slightly alkaline silver solution of eighty grains to the ounce, and no fuming. The former is easiest to tone, the latter the most artistic and permanent in results. A great reduction of silver takes place, and the prints require a much larger amount of gold to tone, and that is what we want, for we obtain permanence by these means. I have now on hand some three hundred unmounted albumen stereoscopic prints made by me in 1869 that are *all* in an excellent state of preservation, except that the paper itself, by the action of the atmosphere, has become yellow at the edges. Now this brings me to the important point of the effect of the prints, which I strongly suspect is the rock on which we have often been wrecked in the old times. With the knowledge we now possess we can make our work more absolutely certain. Unlike emulsion prints, photographs on albumen or plain salted paper may be chemically injured from the back as from the front. For a short time our house adopted the method of taking the prints out of the water, and separating them by laying on clean brown paper before examining them for mounting. These prints all became spotted. The evil lay in the brown paper. The question will be naturally asked: What security have we that the paper used in the mounts is chemically pure or free from deleterious compounds? To this I will answer, Buy your mounts from manufacturers whose experience and plant insure the most reliable results.

From frequent conference with Mr. Edward Cope, the veteran Vice-President of the A. M. Collins Manufacturing Company, I am convinced that this subject is pretty well understood there, and we must insist on undoubted guarantees from all manufacturers. *Buy only reliable products.* One class of mounts which we found liable to show faded prints in old times were the imported maroon cards. Who knows to what extent chemically impure paper and coloring matter were responsible for the fading of the old-time prints, small as it was in proportion to the emulsion papers?

There are numerous other advantages if we go back to the single albumenized papers. We can modify our tones to suit our own individual ideas by adopting the various toning formulæ at command. Even the olive-black can be secured by first toning to a warm purple in the acetate gold bath, and then using a platinum bath about double the strength used for Aristo-platino paper. But the main advantage of going back to this method lies in the fact that we get rid of the pests of rapid fading, peeling, and rubbing which are destroying the value of our products, and can again honestly look our patrons in the eye when we say, "These are permanent pictures." It is in being exposed to the sun and air in our show windows that albumen prints show more change than when kept normally that has heretofore caused a lack of confidence in their stability. After all, it was only shown in the yellowing of the whites and a change to a warmer tone throughout, and the prints produced by reliable establishments did not, as a rule, fade, while those kept in a normal condition have generally kept well, as all of us can testify who receive old pictures for copying. I have traced the most of the yellowing in the latter periods to the imperfect fixation caused by the use of weak solutions of hyposulphite of soda to avoid that dreaded pest of photographers, blisters, with double and highly albumenized papers. This element is absolutely eliminated by the use of the single albumenized papers, and for the purpose of coloring (and neatly colored photographs are again coming into demand) there is no comparison in ease of working, as with the hard, repellant surface of emulsion papers. The liability to change to a warm or foxy tone is entirely obviated by carrying the operation of toning farther, which in the case of large portraits should always be done.

There is a demand for one more improvement while we are "looking backward." We want again that beautiful, smooth, grainless quality of plain paper which, when I was a boy, yielded such prints as could easily rival those on matt collodion paper. They were sized with arrowroot in some cases, but yielded far richer and smoother prints than the modern arrowroot paper. With platinum toning prints on such papers leave nothing to be desired in the matter of quality or permanence, and the matt emulsion papers would then also be eliminated by those who are anxious to carry out the idea of permanence to the utmost. A demand for these things will tend to create the supply.

Now, photographers, if your patrons will not pay for carbons or platinotypes for the general run of their orders, and you are convinced that you have been wandering after false gods and false ideals to your own financial destruction, why not turn about now? It is much easier done than you imagine. How do you suppose we took the back track? Pardon a few additional words of explanation.

From some time in 1893 to the summer of 1895 we used emulsion paper for our small work. The latter summer was hot and sultry, and we were using gelatine paper. I had long considered we were on the wrong track, and suspected that the prints were fading *en masse*, but had the common, foolish fear of being considered not up to date or a back number by doing what I thought was right. One memorably hot day the prints were more sticky than usual, and almost a whole batch of over three hundred spoiled while in the wash-water. I am one of those who, on rare occasions, under great provocation, not only act quickly, but use language more emphatic than elegant. Both things happened. The whole batch was thrown out, and I swore that not another print should be made on those papers. Two or three dozen sheets of albumen paper were sent to the printer to sensitize at once, to re-

place the prints spoiled, and from that day to this we have never used the glossy emulsion papers for our work. A few of our patrons objected, but we have a printed explanation that satisfies all objectors. We use one hand less in our print-finishing department on account of the change "backward," owing to less work required in finishing; we have replaced scores of our faded gelatine prints since that time, and trust we have laid the foundation for what we all seek, a more permanent patronage. What we have done anyone else can do with a little courage and backbone.

LENSES FOR PORTRAITURE.

THE time has passed says W. K. Burton, in *Photography*, when the word "portrait" placed before the other "lens" amounted almost to a fetish, it being believed very firmly that there was some quality in a "portrait lens," apart from angular aperture, flatness of field, and all the recognized attributes of lenses, rendering it in some peculiar way more fit to "take a portrait" than any other form of lens. That there are countries we wot of where the fetish idea still exists—where the first ambition of a young photographer beginning business on his own account is to possess a lens dubbed "portrait"—does not much concern us here. It is good for opticians, and these will continue to issue "portrait lenses" as long as lenses with such a title are demanded; nor do we mean at all to suggest that lenses bearing the name are not sometimes better than any other for portrait work, but we think that all photographers should understand just in what way they are better, in what particulars they show no advantage over other lenses, and in what they are inferior. The subject is one that we have treated once before, but the recent revolutions—if we may be allowed the term—in lensmaking greatly change the point of view.

The distinguishing feature of a portrait lens, whether it be of the old Petzval form or of any of several newer, may be said to be that it works at an aperture of not less than *f*/4, sometimes approaching *f*/2, giving perfect definition over at least a small area, and being practically devoid of chromatic aberration. These qualities were of the greatest value in the days of wet plates, when one of the greatest objects was to reduce exposures, and they are still useful in some cases, but in a much more restricted degree than they once were.

In the first place it is not at all often, with the extraordinarily rapid plates that we now have at our service, that we have any necessity to work at such an aperture as *f*/4, not to mention the greater apertures that most portrait lenses put at our disposal, and in the second place there is a law in optics—explained in these columns some years ago—whereby the limit of actual (not angular) aperture remains the same for the same subject, whatever be the focal length of the lens. Experience has convinced us that three inches, or perhaps three and a half inches, is the maximum useful aperture in portrait work.

This means that there is no use for an aperture of *f*/4 for lenses of more than twelve, or, at the outside, fourteen inches focus, that is to say, for lenses that *ought* not to be used for plates much larger than 6½ x 4¾ in portrait work. This consideration brings us very directly to an important point. The lenses of the kind commonly sold as "portrait lenses" have distinct advantages for the everyday carte-de-visite and cabinet work of the professional photographer for some subjects and in some weather. For sizes at all larger they are of doubtful advantage; for sizes

much larger they offer no advantage at all, but, on the contrary, most of them have distinct disadvantages.

Who at the present day, we wonder, uses a portrait lens of, say, six inches diameter with a diaphragm of a greater diameter than three inches? Yet it is not everyone who knows that, such being the case, he would be better fitted with any of several kinds of lenses having a maximum aperture of about *f*/8, and being much cheaper than a portrait lens in first cost.

When we last wrote on this subject there was practically no lens in the market with aperture between *f*/4 and *f*/8; now the gap is fairly filled, *f*/5.6 or *f*/5.7 being by no means uncommon, whilst *f*/6.3 is a favorite maximum aperture with makers of the newest forms of lens. 6.3 is practically twice the $\sqrt{10}$; this last having been proposed as the unit for angular apertures of lenses by Dallmeyer, and having been adopted in the factory of which he is the principal. For sizes not greatly larger than cabinet there can be no doubt that these are the best lenses for portraiture, even if they are not actually named portrait lenses. There is, however, a danger in connection with their use. The very fact of the extraordinary covering power possessed by many of the new forms of lens leads to the use of them for plates far too large, or, what is the same thing, leads to the use of lenses of much too short focus. Thus we discovered a photographer a few days ago using a double anastigmatic of only twelve inches focus for portraits on a 12 x 10 plate. He explained that "even full aperture it covered well enough for portraiture up to the very edges of the plate." Of course, this was an extreme case, but it seems difficult to make photographers in general understand that for such a size of plate a lens of *at least* twenty inches focus should be used, and this absolutely without regard to any statements of the size that the lens *can* cover.

There is an excellent old rule as to the focal length that should be adopted for any size of portrait to avoid exaggerated perspective. It is that the focus should be not less than twice that of the length (or height) of the final picture. This is, however, the focus *in use;* very nearly the same as the solar focus for lenses of short focus, very different for those of long focus. Thus a lens of twenty inches solar focus is never likely to be used for portraiture with a less conjugate focus than twenty-two or twenty-three inches, that is to say, about twice the length of a trimmed print likely to result from a 12 x 10 negative.

Above a certain size the single lens becomes not merely admissible, but the best for portrait work. A single lens gives no appreciable distortion if the rule as to focal length given above be strictly observed. Single lenses are now made that give perfect definition at apertures of *f*/12 or *f*/12.5. Such a lens with a focus of thirty-six inches or somewhat over, and an aperture of three inches, will be found better than any other kind of lens for a plate of such a size as 22 x 17, for it is unlikely that such a lens will be used with a less extension than forty-four inches.

We thus have it, to put it as briefly as possible, that:

Portrait lenses are the best (or have advantages over others) for small work.

The various kinds of rapid doublets—anastigmatics, etc.—are the best for moderately large work.

Single lenses are the best for very large work.

We are here assuming that absolute sharpness is desired in at least one plane. If not, single lenses have advantages for all sizes, the aperture being opened sufficiently to give distinctly appreciable spherical aberration.

Again, for large work, the Dallmeyer-Bergheim lens has distinct advantages, especially as it gives us the power of vary-

Copyright, 1897, by L. V. Kupper *Edinboro, Pa.*

THE END OF A SUMMER'S DAY.

ing the focal length within very wide limits. When first we worked with this lens we found some difficulty in making the necessary adjustments, but when we had overcome this, we found it a most useful instrument.

STRENGTH OF HYPO SOLUTION AND TIME OF IMMERSION FOR FIXING ALBUMENIZED PAPER.[1]

BY A. HADDON AND F. B. GRUNDY.

THE permanence of prints on albumenized paper and their freedom from yellowness with age undoubtedly depend on the elimination, by the fixing bath, of the insoluble salts of silver. Up to the present we have not been able, by means of hypo alone or with the addition of other salts, to reduce the quantity of silver left after fixation below a certain small percentage, and it is this small quantity of silver that ultimately causes the high lights to turn yellow, and finally the print to materially change in color.

Our standard works on photography lead us to infer, since no mention is made of it, that hypo is capable of removing the whole of the silver from the high-lights of a print on albumenized paper, and the usual recommendation with regard to fixing is to make up a 20 per cent. solution of hypo, and immerse the print in it. The volume of such a solution that we ought to take for a given area of paper is, in almost all cases, left to the judgment of the operator.

The only mention of the quantity of hypo required for fixing paper that we have come across is given in *The Art and Practice of Silver Printing*, by H. P. Robinson and Captain Abney, page 93, where it is said that one ounce of hypo will fix with safety three sheets of paper. It is quite possible that one ounce will do this; but, if we have to take a 20 per cent. solution, using one ounce of the salt, we should have five ounces of the solution only in which to immerse our three sheets of paper —rather a small volume—unless we fix the paper in batches of half or whole sheets, which would make it a tedious operation.

We have some difficulty in discovering the origin of the usual recommendation to fix albumenized paper in a 20 per cent. solution of hypo for fifteen minutes, but finally found a recommendation very much like this in the classic research of Messrs. Davanne and Girard, published in vols. iii. and iv. of the *Photographic News*, 1859 and 1860. They recommend a solution of from 15 to 20 per cent. of hypo, and time of immersion from ten to fifteen minutes.

We will quote their own words: "Our experiments were made upon solutions 5, 10, 15, and 20 per cent. This last strength appeared to give the best results, and we stopped at it, although there was nothing absolute in it; it is a medium strength, and may be diminished or augmented without any inconvenience."

Further on they say: "In every experiment we have made we have found that, after an immersion in the hypo bath of ten minutes, the proofs obtained in the ordinary way, even without previous washing in pure water, were completely fixed; it is, therefore, only in exceptional cases, as in employing excessively thick paper, or concentrated baths of soluble chloride, or of nitrate of silver, that we must consider how long it will be advisable to prolong the fixing, which, as observed by Mr. Le Gray, should be as brief as possible."

From the above it will be gathered that in 1860, in many cases, the paper on re-

[1] A paper read before the British Convention.

moval from the printing-frame was transferred directly to the hypo solution, and with this method it was not astonishing to find that some silver was left in the paper. We must also bear in mind that albumenized paper of those days was feebly albumenized, highly salted, and not toned before fixation. Messrs. Davanne and Girard, seeing the possibility in certain cases, when the paper was not washed before fixation, of the formation of insoluble salts of silver due to the excess of silver coming into contact with the hypo, recommended that the fixing solution should be compounded as follows:

Hypo	100 grammes.
Common salt	25 "
Bicarbonate of soda . .	10 "
Water	500 c.c.

Here we have definitely laid down 20 per cent. The addition of the chloride of sodium was to prevent or retard the formation of the insoluble thiosulphate of silver and sodium, and, to prevent the solution becoming acid, bicarbonate of soda entered into the composition of the fixing-bath. When the intermediate washing took place between the printing and fixing, a weaker bath was recommended, and depending on the thickness of paper, the time should be varied from ten to fifteen minutes.

The quantity of silver per sheet in the paper after washing was found to be 1.3686 grammes by the same gentlemen. The maximum we have been able to obtain from modern papers is 0.3786 grammes of silver per sheet. From this we may naturally conclude that most probably the images produced on these highly salted papers were mainly silver reduced from the chloride, and not from the organic salt of silver. On modern papers, on the contrary, the image is formed mainly by the action of light on the organic salt of silver.

In the experiments we have recently made, in order that the results may be comparable, we have always used the same amount of hypo per sheet of paper, whatever the dilution or concentration of the solution, and from some preliminary analysis we found that the silver was reduced to a minimum, other conditions being constant, when the hypo was made alkaline with ammonia. The quantity added was 4 c.c. to each litre of solution (about 1 drachm per 40 ounces).

It might seem at first sight that the dilution of the hypo would have little influence on its power of dissolving chloride of silver, provided there was sufficient of it present, but this is not so; a 1 per cent. of hypo, when allowed to act for fifteen minutes, left in the paper 33.5 per cent. of silver. In all cases, excepting where otherwise stated, we have compared the silver left in the paper after fixing and washing with the silver which mere washing in water was unable to remove.

As our analyses led us to the conclusion that no practical results could be hoped for by using very dilute solutions of hypo, we need not trouble with them.

The fixing-bath recommended by Messrs. Davanne and Girard, and which we have already given, failed to remove more silver than does ordinary hypo.

A 10 per cent. solution of hypo for ten minutes, followed by another of 46 per cent. for five minutes, produced no better result.

We have made over forty analyses of papers fixed in different ways; the most interesting results we have obtained are shown in the following table. The different figures give the quantity of silver in grammes per sheet left in the paper with four baths of different strengths, the paper being left in these solutions for periods varying from five to twenty minutes.

This table reveals one curious fact, which could only be arrived at by analysis; that is, that below and above a certain strength of hypo more silver is left in the paper than when using that particular strength.

Per cent. of Hypo.	Time of Fixation in Minutes.			
	5	10	15	20
5	0 0160 0.247	0.0200 0.308	0.0200 0.308	0.0180 grms. 0.278 grs.
10	0.0140 0.216	0 0142 0.219	0.0160 0.247	0.0140 grms. 0.216 grs.
15	0 0160 0.247	0 0188 0 290	0.0180 0.278	0.0200 grms. 0.308 grs.
20	0 0200 0.308	0.0180 0.278	0.0180 0.278	....

A 10 per cent. solution of hypo, in from five to ten minutes, removes more silver from paper than does a stronger solution in the same time.

This is fortunate, as by using hypo of this strength there is less danger of the delicate half-tones of a print being dissolved than would be the case if the strength of the solution were doubled. The quantities of silver left in the different pieces of paper vary, but this is due to two causes, most probably experimental error and inequality in the thickness of the layer of albumen on the paper.

Messrs. Davanne and Girard, in their paper, say that a 15 or 20 per cent. solution of hypo, when allowed to act for ten minutes, completely fixed the proofs. It is very unfortunate that they did not give the method they adopted in order to arrive at this result.

We have experimented with two different brands of paper, and the amount of silver left in one is 0.0148 grammes per sheet and in the other 0.0145 grammes. It must be perfectly clear to everyone that, if the complete elimination of silver from the high-lights of a print is the main condition for its permanence, then that paper which retains most silver when we have fixed and washed must of necessity be the least permanent. This also points to the fact that the preparation of the albumen or its purity has some effect on the amount of silver finally left in the paper.

In the early days of photography pure fresh egg albumen was used, but now frequently, in order to obtain extra gloss, the albumen is allowed to partly decompose before it is coated; sulphur compounds may thus be formed which combine with the silver and are insoluble in hypo.

We thought it would be instructive to experiment with albumenized paper made some twenty years age. We were fortunate in obtaining a couple of sheets from Messrs. Atkinson & Co., of Greenwich. The total silver in this was found to be per sheet 0.6172 grammes, and silver left after fixing 0.0123, less than in modern papers.

In conclusion, we have confidence in recommending that papers (albumenized) should be fixed in 10 per cent. hypo made alkaline with ammonia in the proportion mentioned above, and that the fixing, unless the paper be unusually thick, be not continued beyond ten minutes.

The sensitizing of the paper and the method of analyzing for the estimation of silver we have already given in previous papers.

Mr. A. L. Henderson thought that hypo as generally used was much too strong, the consequence was that strong hypo would be left in the print, and if the latter were placed in impure water a reaction would be set up. He strongly recommended the use of dilute solutions of hypo for fixing purposes.

Mr. S. B. Webber inquired the effect of temperature in using a fixing bath at the strength recommended by Mr. Haddon.

Mr. Henry Sturmey asked if experiments had been made with other papers than albumen.

Mr. J. Stuart (Glasgow) asked if experiments had been made in treating the prints with salt after washing.

Mr. H. Snowden Ward asked if the danger of dissolving the half-tones referred to by Mr. Haddon had been proved by experiment.

In the course of his reply, Mr. Haddon remarked that the reaction mentioned by Mr. Henderson would depend entirely upon the impurity contained in the water. As to the effect of temperature, of course, this varied the results; he might mention that his experiments were made at a temperature of 17° C. Answering Mr. Sturmey he said, that about four years ago he read a paper on the fixation and washing of gelatine prints. He found it possible to remove the whole of the silver from the high-lights of the prints, so that further experiments were not necessary. As to Mr. Stuart's question, the conversion of the free silver left after washing into chloride would not produce any ill effects. Answering a member who inquired how long the paper should be washed after being alumed, he said nobody alumed albumen paper. In conclusion, he said he hoped to undertake further experiments on the effect of sensitizing pure albumen, and thanked the convention for its attention.

THE NORTHWESTERN PHOTOGRAPHERS' CONVENTION.

THE Third Annual Convention of the Photographers' Association of the Northwest met at St. Paul, August 3d, 4th, 5th, and 6th. The Association includes the photographers of Minnesota, Wisconsin, Iowa, Nebraska, and the Dakotas, having over 250 members, most of whom were in attendance at the Convention.

President T. M. Swem, of St. Paul, opened the Convention with a short address of welcome, in which he tendered his resignation, being called South on urgent business. Second Vice-President Heinzelman, of Owatonna, was elected Chairman in his stead. The opening session was devoted to the reading of the reports of Secretary F. H. Lloyd and Treasurer A. H. Opsahl. Following this a spirited discussion took place concerning the admission of stock-dealers to active membership. The proposition was defeated. It was again introduced at a later meeting, and again defeated.

After the session the members spent their time in looking over the art and dealers' displays. The art exhibition was large, and contained much excellent work, the displays of C. A. Zimmerman, of St. Paul, H. C. Rinkel, of Lake City, W. F. Schreiber, of West Bend, Wis., T. Zweifel, of Duluth, L. E. Rossiter, St. Ansgar, Iowa, J. A. Brush, Minneapolis, H. L. Olson, Montevideo, Minn., Haas Bros., St. Paul, Phillips, of Red Wing, and F. L. Douglas, Osage, Iowa, being especially notable as showing progress. No prizes were offered for competition, but diplomas were awarded for special excellence where deserved.

The second day was largely occupied with lectures and demonstrations in the school of photography. Prof. Griffith, of Detroit, criticised some of the pictures on exhibition, and his address was heard with much interest. He was followed by Mr. John H. Decker, of the Lovell Dry Plate Co., who gave a practical demonstration of the manipulation of Climax plates from the dark-room to the print fixing-bath. This was one of the most useful lessons given before the Convention. Mr. C. A. Zimmerman then addressed the photographers on "Artistic Posing and Lighting," delivering the lecture which we published in our last number.

A noticeable feature of the meetings was the unusually large attendance of ladies; many of these are proprietors of the galleries they represent, others were the wives of members of the Association, and others employés.

A special feature of the art display was the exhibition of the best work of the National Convention, including the exhibit of Messrs. E. & A. J. Rösch, of St. Louis,

and a fine collection of work on Climax plates from some of the leading galleries in the country. Messrs. Arthur & Philbric, Detroit; the Baker Art Gallery of Columbus, O.; Reeves, of Anderson, Ind.; Kitchell, of Indianapolis, and Dana, of New York, also showed beautiful examples of genre work and portraiture.

Messrs. Zimmerman Bros., of St. Paul, worked hard to make the Convention a success, and provided a reception-room near the Convention hall for the convenience of visitors. Secretary Lloyd also deserves mention for his good work in this way.

The third day, August 5th, was the busiest day of the Convention. At the morning session of the school Mr. J. A. Brush gave a talk on photographing children. Chemical manipulation was then treated in turn by Mr. Campbell, of the Hammer Dry Plate Co.; Mr. Hodges, of the Seed Co.; Mr. Edgeworth, of the Cramer Dry Plate Works, and Mr. C. O. Lovell, of the Lovell Dry Plate Co. Mr. John H. Decker followed with a criticism of the exhibits from a printer's point of view. Mr. F. M. Whipple gave an interesting address on the business side of photography, and Prof. Griffith closed with a detailed criticism of a selection of pictures from the art display.

The election of officers resulted as follows: for President, J. A. Brush, Minneapolis; First Vice-President, M. F. Heinzelman, Owatonna; Second Vice-President, J. H. Snow, Mankato; Secretary, P. J. Nelson, Anoka, Minn.; Treasurer, A. H. Opsahl, Minneapolis. W. A Pryor, of La Crosse, was elected Vice-President for Wisconsin; M. W. Starks, Sioux City, Vice-President for Iowa; L. V. Bean, of Sioux Falls, for South Dakota, and A. A. Bentley, of Fargo, for North Dakota.

In the evening a reception and entertainment were tendered to the conventioners by Mr. and Mrs. E. O. Zimmerman at their beautiful home, and this proved a pleasurable affair.

The principal manufacturers of plates and printing papers were well represented at the Convention by their several demonstrators and displays of work showing the good qualities of their products. Except in the display of Messrs. Zimmerman, very little apparatus was to be seen. The Convention was a working Convention, full of practical demonstrations and business talks. Those who attended were enthusiastic over the instruction and helpfulness of its features, and expressed their pleasure in the success of the meeting. Minneapolis was chosen as the location of the Convention of 1898.

CONVENTION NEWS.

AN OMISSION IN THE CELORON PRIZE REPORT.

Our attention has been called to the fact that, owing to an unintentional oversight by the stenographer at the Celoron Convention, the list of prize awards in the Southern Division of the National Competions was omitted from the official report. Secretary Bowersox reports the awards as follows:

Class D. Silver medal, Mrs. L. Condon, Atlanta, Ga.

Class E. First, McCrary & Branson, Knoxville, Tenn. Second, O. P. Havens, Jacksonville, Fla.

Class F. First, O. P. Havens. Second, McCrary & Branson.

Class G. First, Knaffl Bros., Knoxville, Tenn. Second, McCrary & Branson. Third, J. C. Coovert, Yazoo, Miss.

Class H. Silver medal, J. C. Coovert.

Class I. Diploma, Knaffl Bros.

There is a great deal not explained even by this list of awards. We are informed that there were ten competitors in Class D., Southern Division. Why only one was medalled does not appear. In the Middle Division, Class D., seventeen bronze medals were given; and in the same class, Eastern Division, fifteen bronze medals were awarded. Whatever explanation is hereafter offered in this matter, we fear that this discrepancy in the awards apportioned to the competitors of the Southern Division will militate against the interest of Southern photographers in future conventions. The affair should be straightened out in justice to all.

THE CANADIAN CONVENTION

was held at London, Ont., August 17th to 20th, and seems to have been regarded as a successful affair. The lecturers were, as usual, Prof. Griffith, Charles Hetherington, Pirie MacDonald, etc. There were the usual aristo demonstrations, and the prizes were awarded to fourteen photographers, with variations.

THE MISSOURI CONVENTION.

The report of the convention of Missouri photographers, as received, contains little of interest save to those who attended. The meeting was held at Pertle Springs, August 10th, 11th, and 12th, under the presidency of Mr. W. A. Latour, of Sedalia. The proceedings appear to have been conducted in a free-and-easy fashion, apparently, however, to the satisfaction of those present. Messrs. Cramer, Rösch, Guerin, H. Fell, L. F. Hammer, Mr. Frank, and Robertson, of St. Louis, with Mr. Al. Dunlap, of Chillicothe, and President Latour seem to have been the chief movers at the meetings, and the first and second days of the convention were happily spent in endeavoring to draw speeches out of one or other of these gentlemen, the speeches being almost invariably put off until "tomorrow."

Demonstrations of aristo printing were given daily by Mr. H. Fell, of the American Aristo Company. Messrs. Cramer, Frank, and Hammer gave short addresses on manipulation or the condition of business, and Mr. J. Ed. Rôsch offered a few useful ideas on lighting and dark-room work. Prof. Griffith was conspicuous by his absence, and did not even send a "lecture," but Abraham Bogardus filled the gap with an epistle written in his usual vein of humor. The list of prizes awarded is so hazy as to details that we hesitate to print it, but it seems tolerably certain that the next convention (1898) will meet at Chillicothe, with Mr. A. S. Robertson, of St. Louis, as President, and Mr. A. L. Dunlap, of Chillicothe, as Secretary. The best work shown in the exhibition came, as may be surmised, from the studios of Messrs. Rôsch Bros., Guerin, Hammer, and Samboursky, of St. Louis; but some good professional portraiture was sent by Douglass, of Columbia; Dunlap, of Chillicothe; Stout, of Unionville; Curtiss, of Kansas City; Zoh, of Washington, and Goebel, of St. Charles.

THE PENNSYLVANIA CONVENTION.

The Executive Committee of the Photographers' Association of Pennsyvania met in session at Altoona, September 2d, G. Taylor Griffin, E. E. Seavy, E. H. Newell, W. I. Goldman, and T. B. Clark being present. The following changes were made from last year's arrangements:

It was decided to hold the next annual meeting on February 23, 24, and 25, 1898.

The committee then took up the selection of a hall for the Convention, and found a very unexpected disappointment. The city of Altoona offered no facilities in the way of a hall, the committee being thereby obliged to change the location of

the Convention. The city of Johnstown was suggested, and the committee adjourned to Johnstown. A canvass of the city showed that Johnstown could not offer the requisite facilities, and the proposition was made to come to Bellefonte, where the Convention was finally located. Here the large and spacious armory of Company "B," 5th Regiment N. G. P., was secured. Much credit is due Mr. H. B. Shaeffer, of Bellefonte, for his active interest and hearty co-operation in securing this hall, with light, heat, and rent free to the Association.

Bellefonte is an inland town, picturesquely located at the base of the Alleghanies. It is appropriately named the "Mountain City," and, like classic Rome, is built on seven hills. It is famous for the homes of Governors Curtin, Beaver, and Hastings, and has a wonderful spring, from which it derives its name, Bellefonte (beautiful fountain). As a meeting place the town presents many features of interest, and the Association will reap the benefit financially by the change.

PRIZE LIST.

Special Class. Open to photographers outside the State of Pennsylvania. One portrait (no restriction to size). 1st, gold medal; 2d, silver medal.

Grand Prize. Six portraits (sixteen inches or larger). Prize, one bronze figure.

Class A. Six portraits (thirteen inches or larger). 1st, gold medal; 2d, silver medal; 3d, bronze medal.

Class B. Open to towns of fifteen thousand or under. Six portraits (thirteen inches or larger). 1st, gold medal; 2d, silver medal; 3d, bronze medal.

Class C. Open to towns of five thousand or under. Twelve portraits (no restriction as to size). 1st, silver medal; 2d, bronze medal; 3d, diploma.

Class D. Interiors and exteriors. Eight pictures (no restriction as to size). 1st, silver medal; 2d, bronze medal; 3d, diploma.

Class E. Commercial work. Eight pictures (nine inches or larger). 1st, silver medal; 2d, bronze medal; 3d, diploma.

Class F. Amateur class, open to the world. Six pictures (4 x 5 or larger). 1st, silver medal; 2d, bronze medal; 3d, diploma.

Rules governing entries will be furnished in due time. The Association extends a cordial invitation to photographers, both professionals and amateurs, manufacturers and dealers, to take part in this Convention, and thereby assist in upbuilding and elevating our beautiful art to the station to which it rightfully belongs. Address correspondence to T. B. Clark, Secretary, Indiana, Pa.

THE KANSAS CONVENTION.

The Photographers' Association of Kansas held its annual meeting at Leavenworth, September 6th, 7th, and 8th, but, up to the day of going to press, no report has been received. This young association is officered by good men and enterprising photographers, and is making a strong fight as a helper for the craft in Kansas. Owing to the enforced resignation of Mr. F. D. Tripp, the first Vice-President, H. A. Steavenson, of Leavenworth, took up the duties of the President.

MODIFICATIONS OF PLATINOTYPE PRINTING.

MR. W. J. WARREN, writing in the *Amateur Photographer*, offers some interesting experiences in modifying platinotype printing. He says:

"PRECEPT.

"The walls of our photographic exhibitions during the last few years have emphazised the increased popularity of

the platinotype printing process, and have also shown that the producer's taste leans toward a warmly-toned print, rather than the cool grays which are produced by the elementary treatment of cold bath paper. The introduction of rough-surfaced C. C. paper of the Platinotype Company has no doubt done much to encourage this popularity, because, in addition to the novelty and attractiveness of surface, the paper itself is more suitable for use with the ordinary negative of the ordinary worker. It is no longer necessary to produce a negative specially for this process, which would be perhaps unsuitable for any other, and whilst in all cases it is, to my mind, advisable to have the ultimate printing medium in one's mind during the previous operations, still it is particularly comfortable to know that we are not debarred from other printing methods. And with the increased use of platinotype paper has come the consequent elaborations and emendations of the process—which should certainly be at the call of all workers. Even more than that, it would seem to me necessary that anyone who has adopted a process should not rest until he has acquainted himself with all its powers and variations—its whimsicalities and peculiarities—so that he may obtain a desired result within its compass, with certainty.

"There is no doubt that the virgin gray of a simple platinotype print is specially suited to certain effects, but whilst I would not advocate any attempt at reproducing the colors of Nature herself, still I imagine for other subjects a warmer tone may be more appropriate, and that is why I make the following suggestions—begged, borrowed, or stolen, or the result of one's mistakes, experiments, and misfortunes, commonly called experience.

"PRACTICE.

"The Platinotype Company's cold bath paper if developed with the normal oxalate solution at 60° F., will give a gray print of a fairly cold character, but not so much so as if the bath is slightly acidified with a few drops of citric acid, 10 per cent.

"If the developer, on the contrary, is increased in temperature and the cold bath paper still used, there is a gain of warmth of tone, until, finally, at 160° a distinct sepia is reached.

"If this tone is required it is advisable to certainly use it above 120° in order to avoid a certain double tone—black and brown—which might otherwise result; and a convenient mode of using it is to heat the developer itself in a small enamelled pan over a gas stove and then flood the print.

"If, however, an even more pronounced brown is to the taste of the worker, he may obtain it by adding to the hot solution mercuric bichloride—the actual amount is a matter of experiment—but he may safely begin with a 5 per cent. bath of a saturated solution. He must, however, take care that the bath is not used too often, for it easily fouls, and is then unsatisfactory.

"In my experience the use of the hot bath slightly decreases the time of the necessary exposure, and slightly decreases likewise the contrast in the resulting print.

"But he may require an even warmer tone than can be produced by either of the foregoing suggestions, and uranium may be usefully used in this behalf.

"The following is the formula I have found satisfactory:

A.—Uranium Nitrate	10	parts.
Acetic Acid	10	"
Water, to	100	"
B.—Potassium Ferrocyanide	10	"
Water, to	100	"
C.—Ammonium Sulphocyanide	50	"
Water, to	100	"

"Immediately before use add 1000 parts of water to 10 of each solution, and keep the prints moving well below the surface until the required tone is obtained.

"It is questionable whether blue-tinted prints are suitable for photographs, and it is only in very few cases that they will help the representation, but they may easily be produced in platinotype by using the following iron-toning bath:

A.—Ammon. Iron Alum	. .	10 parts.
Hydrochloric Acid	. .	10 "
Water		100 "

B and C as before.

"Immediately before use add 5 parts A, 2 parts B, and 5 parts C to 1000 parts of water, and immerse the prints as before.

"Both of these two baths, and the former especially, are particularly useful in intensifying weak prints, and making what would otherwise be only fit for the dust-bin into presentable pictures.

"Another method of obtaining a brown tone is the one suggested and introduced by Mr. Packham. The requisites were, for some time, obtainable at the dealers, but I have missed them lately, and therefore I do not think I shall be wronging the discoverer by publishing what I believe to be the formula: 2 drachms of ordinary dyer's catechu (commonly called cutch), of best quality and cleanliness, boiled or scalded in 5 ounces of water, to which 1 ounce of alcohol is subsequently, when cool, added as a preservative. For use, take water at 130° F. 20 ounces, and the above solution 35 minims.

"If quick toning is required the solution with the print thoroughly immersed in it should be kept at about 130° F., otherwise the actual toning will take some hours. Mr. Packham claimed, and I think rightly, that the solution only affected materially the parts in which the image actually was, and left the high-lights untouched. Similar tones may also be obtained by a continued application of a solution of aloes, tea, or coffee.

"Unless an actinometer is used there is a danger of obtaining weak under-exposed prints. These may be intensified with platinum by using the Hübl formula, as follows:

1.—Sodium Formate	. . .	48 grains.
Water		1 ounce.
2.—Platinum Perchloride	. .	10 grains.
Water		1 ounce.

"For use, take

Water	. . . . .	1 ounce.
No. 1	. . . . .	15 minims.
No. 2	. . . . .	15 "

and immerse for about fifteen minutes, wash and dry.

"Gold, too, may be used as an intensifier. The formula is as follows:

1.—Gold Chloride	. . .	15 grains.
Distilled Water	. . .	7½ drachms.
2.—Sodium Sulphite	. . .	1 ounce.
Metol		50 grains.
Water, to		1 ounce.
3.—Potass. carb.		1 ounce.
Water, to		10 ounces.

"The damp print having been previously well washed, is brushed over with glycerine.

"No. 1 solution is then spread over the surface, a small quantity being sufficient to affect the print. As soon as sufficient density is obtained it is sponged back and front, or is immersed in equal quantities of solutions Nos. 2 and 3, and finally well washed.

"Platinotype paper which has become affected by damp may be restored by placing it until it is bone dry in an oven heated to 100° F., and not allowing this to vary either way more than two degrees. A small gas oven about twelve inches square will be found a very useful fitting in a dark-room for this purpose and for heating and drying generally. By varying the force of gas consumed, the heat may be easily regulated and kept at the required level.

"Often the paper support for the platinotype image yellows with age or impurities. As, however, the image itself is unaffected by the action of bleaching powder, the stain may be removed by

soaking the damped print in a 2½ per cent. solution of so-called chloride of lime for ten minutes, then removing the print, and after adding to the bath twelve drops of hydrochloric acid replacing it. If the stain is very obstinate, the latter part of the process must be repeated from time to time.

"A thorough washing is subsequently necessary.

1.—Gold Chloride	. . .	15 grains.
Water	. . . . .	7½ drachms.

Neutralize with chalk, filter, and add one drop of hydrochloric acid.

2.—Pure Glycerine.		
3.—Sodium Sulphite	. . . .	1 ounce.
Metol	. . . . .	50 grains.
Water, to	. . . . .	10 ounces.
4.—Potassium Carbonate	. .	1 ounce.
Water, to	. . . . .	10 ounces.

Soak the print in water for a few minutes, and after blotting spread glycerine evenly over the surface with a brush, or piece of cotton wool, or a Blanchard brush.

"Then drop a few minims of the gold solution on to the print, and mix it with the glycerine with a brush, continuing to mix as the intensification proceeds.

"As soon as the required density is obtained, wash off the glycerine-cum-gold solution, and immerse in Nos. 3 and 4, equal parts. Afterward wash thoroughly.

"Platinotype prints may also be intensified with the ordinary pyro developing solution, to which eight drops to the ounce of a 10 per cent. solution of silver nitrate has been added. The print is afterward fixed in hypo and well washed.

"It will be found that the effect of all intensifiers is to increase the contrasts, and therefore they are useless with hard-light prints.

"Although the paper, and especially the C.C., keeps wonderfully well if it is stored in the original tin with a small piece of calcium, and the lid edged with a piece of composition wax candle, melted and pressed round—or, of course, in the proper storage tins; still, we all have suffered from saturated paper. If, however, we place the damaged paper in an oven heated to 100° F.—the heat at which, I believe, the paper is originally dried—we may restore it. To large workers it is worth while having a small gas oven in one's work-room for this purpose. The heat must not vary three degrees either way.

"If the paper is used in its damp state, printing should continue considerably beyond the usual point, and 5 drachms of potassium bromide, 10 per cent. solution, should be added to each 10 ounces of the developer; or 1 ounce of a 10 per cent. solution of chloride of potassium may take the place of the bromide.

"The use of glycerine is so generally known that it is unnecessary to do more than remind readers that if three small dishes are prepared, one of normal developer, one of glycerine and weak developer mixed, and one of glycerine alone, and these are applied with a brush to the print pinned on a board, some surprising effects may be obtained by using first the mixture generally, and then stopping out the required high-lights with glycerine, and increasing the shadows with the normal solution.

"The whole print may be first coated with glycerine if preferred, and the normal developer then applied, and this plan is the best where vignetting has to be done.

"These suggestions are a few of the powers in our hands — they may be amended, and each alteration will yield us some new facility."

PAPER NEGATIVES. The use of paper sensitized for negative making seems to be increasing in Great Britain. Two leading firms now manufacture negative paper of various rapidities, and it is said to be largely used in place of rollable films for hand-camera work.

COMPOSITION. Mr. George Davison says "that the best way to understand the true meaning of composition is by work and study, close and constant observance, as well as judicious examination of the schools of past workers as a whole, of the collected works of individual artists, and of separate pictures in such a way that, without binding one's practice to any rule or previous design, new ideas may form in the mind. Such a current of new ideas must, with earnest and constant work, inevitably show in one's compositions."

MR. H. P. ROBINSON says that two books which have influenced him as an artist more than any others are Ruskin's *Modern Painters* (which he has read and re-read for over fifty years), and Burnet's *Hints on Composition.*

A NEW STYLE. The *Practical Photographer* describes the following new style for portraits as being adopted by prominent English photographers: "The portraits are in platinotype, delicately vignetted on a large sheet of paper which is left unmounted, the heavy kinds of platinotype paper being sufficiently thick to obviate the necessity for a mount. The portraits, as a rule, are bust pictures, and resemble crayon or pencil drawings." This effect has for some time appeared in the recent work of Mr. Hollinger, of our city, and is exceedingly tasteful. Mr. Hollinger's pictures are made with a white background, printed on small pieces of platinum paper, and mounted on large white mounts with a delicately tinted centre.

Bromide Enlargements, and How to Make Them, by J. Pike, is the latest issue of the "Popular Photographic Series," published by Percy Lund & Co., Bradford, Eng. Mr. Pike deals with his subject in a very practical way, giving clear directions and formulæ concerning every stage of the work.

PLAYER'S METHOD OF COPYING ENGRAVINGS, etc. At a recent meeting of the Royal Photographic Society the assistant secretary showed some prints—copies of pencil drawings, line engravings, and silver prints—produced by Mr. J. H. Player in the following manner: The object to be copied was laid face upward on a piece of black paper or velvet, and a sheet of bromide paper was placed film downward upon it; pieces of plate glass, and finally a piece of green glass, were put upon the whole, and light was allowed to pass through the glass and through the bromide paper on to the engraving to be copied—the latter being beneath the sensitive surface, instead of above it, as in ordinary cases. The bromide paper upon development formed a negative from which positive prints could be made in the usual manner.

PHOTOGRAPHERS' PRICE LISTS. Properly constructed the photographer's price list may be made a very persuasive business bringer in any progressive locality. It should offer a selected example or two of the photographer's work, preferably of small size and printed in platinum. The covers may be of imitation leather of any appropriate shade, and the text (prices, sizes, styles, and hints to sitters) printed in black and red, or any two complementary or contrasting colors, on linen or bond paper. If half-tone illustrations are used, the use of a tinted coated-paper is, of course, advisable.

A HINT AS TO DISPLAYING SPECIMENS. An exchange suggests that whether the patrons of a studio will order carbon prints

or not, the photographs on display should be printed in the warmer tints of this process. The suggestion is a good one, and already largely followed by many of our leading professionals. For display purposes the carbon process offers the advantages of permanency, brilliancy of prints, a wide range of color effects, and a general appearance of finish, all of which help the patron to a favorable impression of the work of a studio.

PLATINOTYPE STORAGE TUBES.—Every platinotype worker is familiar with the importance of keeping the paper as dry as possible, and will be glad of any hint in this direction. The following "tip" has been found of service during the last couple of years. An ordinary storage tube has a loose part at each end. One must be opened each time a piece of paper is withdrawn. The other end, where is stored the calcium chloride, need only be opened at comparatively long intervals, *i. e.*, when the calcium is to be "baked." Take now a bit of beeswax, melt (by gentle heat) in a jam pot, apply by means of a soft *long* hair-brush) along the juncture of the calcium chloride end. If a satisfactory, even layer of wax is not at once obtained, it can be just melted again by holding over a gas or candle flame until it just runs and makes an air-tight joint. The thing is done in a couple of minutes, and is well worth the trouble. If beeswax cannot be obtained, a bit of paraffin candle will serve.

HYDROQUINONE DEVELOPMENT.—It is said by eminent authority that the addition of a *small* quantity of potassium ferrocyanide (yellow prussiate) hastens development, and yields cleaner, clearer results. For every ounce of mixed developer add one to ten drops of a 10 per cent. solution of the ferrocyanide. Another formula advises dissolving the ferrocyanide along with the hydroquinone in the proportion of one part of ferrocyanide to every eight to ten parts of hydroquinone. This developer is said to yield fogless negatives with the most rapid plates.

SOME RECENT PHOTOGRAPHIC PATENTS.

[OUR readers can obtain copies of these patents, at ten cents each, from Messrs. Alexander & Davis, patent attorneys, Washington, D. C., by whom this monthly list is supplied.]

TRIPOD. F. A. Brownell, Rochester, N. Y., assignor to Eastman Kodak Co. No. 588,552.

This invention comprises a base-plate; a camera supporting-plate rotatable on this base-plate; a connecting rod passing through these plates, movable longitudinally and independently of the plates, but so connected as to rotate with the support-plate. This connection is provided by an irregular shaped shank fitting into correspondingly irregular openings in the support-plate.

BACKGROUND CARRIER. L. C. Overpeck, Hamilton, Ohio. No. 588,597.

An upright frame carrying two pairs of chain-wheels connected by endless chains. Rollers are provided and so arranged that each can be operated singly by adjustable cranks. In this frame a number of backgrounds may be easily stored and manipulated, the apparatus occupying no more room than is required for a single background carrier.

SENSITIZED NEGATIVE FILMS. T. H. Blair, Northampton, Mass., and S. E. Waterman, Pawtucket, R. I., assignors to the American Camera Co., of Northborough, Mass. No. 588,790.

A method of making a flexible support for a film of gelatino-bromide emulsion and coating the same in one continuous operation.

ROLL-HOLDER CAMERA. Philip K. Stern, St. Louis, Mo., assignor to Stern Manufacturing Co. No. 588,611.

This is a collapsible camera, with rigid back and angular supports, the sides of the camera being of flexible material. In operation it is similar to a flat box with a cover hinged at one edge. Upon

opening the cover and stretching the flexible sides taut, the camera assumes the form of a rigid pyramid, at the apex of which provision is made for the lens.

KINETOSCOPE. M. G. Steward and E. F. Frost, Washington, D. C., assignors to Charles N. Campbell, same place. No. 588,916.

This invention is designed to secure steadiness in the exhibition of kinetoscopic pictures. The mechanism consists of a peculiarly constructed reflector, by which the rays of light from the moving pictures are held stationary as they pass a given point.

KINETOGRAPHIC CAMERA. Thomas A. Edison, Llewellyn Park, N. J. No. 589,168.

This patent covers an instrument for photographing and projecting on a long strip of film the successive phases of motion in any scene representing life, similar to other apparatus of the same class.

EMBOSSED OR RELIEF PORTRAITS. D. F. Hulbert, St. Louis., Mo., assignor to the Hulbert Bas-Relief Co., same place. No. 589,260.

This method covers the production of portraits in relief by means of malleable metal plates, which operate as dies or patterns. Embossing tools are used, and the picture to be embossed is preferably mounted on a plastic support, which is allowed to harden under pressure of the metal dies.

MAGAZINE CAMERA. E. R. Flora, Chicago. No. 589,346.

A novel form of camera, consisting of two telescopic sections moving longitudinally on each other. The forward section carries the lens and an open interior tube extending rearward. The back section carries a pivoted magazine, which, in its normal position, brings a plate against the open end of the interior tube mentioned. The mechanism of the magazine is so arranged as to consecutively change the plates as exposed.

CAMERA. L. J. R. Holst, Amsterdam, Netherlands. No. 589,349.

The camera is provided with a finding mirror behind the lens, so placed that the view to be photographed is focussed on the mirror, and thence reflected to the usual ground-glass finder. The image on the finder is identical in size with that on the plate. The finding glass is in two parts, and folds away from the lens before the exposure is made. The device obviates the necessity for the ground-glass screen and focussing cloth.

EDITOR'S TABLE

THE NATIONAL PHOTO PAPER CO.'S SALON.—The results of the prize competition announced some months ago by the National Photo Paper and Chemical Co. of Springfield, Mass., for pictures by amateurs and professionals, open to all users of "National" papers and "Photogravure Board," are made known as follows:

Professional: Class A.—$150 for the best picture. L. E. Watson, Detroit, Mich.

Class B.—For the best collection of pictures, $100. J. B. Schreiver, Emporium, Pa.

Class C.—For the best general exhibit of gallery work, $75. Charles Godfrey, Hyde Park, Chicago.

Amateur: First Prize.—E. Fellows, Portland, Ore. Second Prize: W. H. Lyman, Buffalo, N. Y. Third Prize: H. K. Noyes, Kenwood, N. Y. Fourth Prize: Dr. W H. Baker, Terre Haute, Ind. Fifth Prize: F. T. Harmon, Chicago, Ill.

The pictures sent for competition were arranged by Mr. J. B. Mumford, Manager of the N. P. P. Co., for public exhibition at the Gill Art Gallery, Springfield, Mass., the exhibition being largely attended by the public and photographers of the town and vicinity. The judges were Mr. Will Bradley, artist, and Mr. Edward W. Newcombe, editor of the *Photo-American*. The display of pictures thoroughly demonstrated the artistic possibilities of the products of the National Photo Paper and Chemical Co., a special feature being the variety of tones obtainable on the new "Photogravure Board," which is rapidly gaining wide popularity among amateur and professional photographers. The N. P. P. Co. deserve praise for their enterprise in promoting this competition, with its generous awards, and it is to be regretted that the display could not have been shown at the recent conventions.

THE FRANKLIN PRINTING AND ENGRAVING CO. OF TOLEDO, O., has established a department for photographic supplies. Mr. M. ALISON MARTIN, late connected with SESSIONS & KOHNE, has charge of the new department, and will be glad to meet his friends at the new address, 327 Superior Street.

GOERZ LENSES—The SCOVILL & ADAMS CO., 62 East Eleventh Street, New York, announce that they have secured the sole trade agency for the celebrated GOERZ Double Anastigmats, made by C. P. GOERZ, Berlin, Germany, and that they have in stock a complete selection of the several series thus far made of these instruments. Photographers and dealers interested in these new lenses will do well to secure quotations from the SCOVILL & ADAMS CO.

MR. H. A. HYATT, of St. Louis, announces that he has bought the good-will, stock, and business of the J. C. SOMERVILLE Photo Supply Co. of that city, and will hereafter conduct his business at 410 and 412 N. Broadway, St. Louis. This change gives Mr. HYATT largely increased facilities in all branches of photographic supplies. A special feature is to be made of the embossing and printing of photograph mounts, for which work Mr. HYATT has the most complete plant in the West.

MR. MARTIN G. GOOD, the enterprising dealer in photographic supplies, located at 92 State Street, Chicago, has issued a very complete and well illustrated catalogue of amateur and professional requisites, which we recommend to the attention of our readers. Mr. GOOD infuses a large amount of personal interest in his dealings with patrons, and is a capital man to "get along" with.

CLIMAX PLATES, made by the LOVELL Dry Plate Co. of Portland, Maine, are enjoying a "boom" in the Northwest. Mr. LOVELL, during a recent call, spoke warmly of the progress of his plate in the section referred to, and of the business done at the Northwestern Convention. The *Climax* is not only a good plate, but it sells at a popular price, which especially appeals to large consumers.

PURE WHITES and rich transparent shadows are among the chief requisites in good photographs. KIRKLAND'S Lithium Paper gives these desirable qualities, and is rich in the ingredients necessary to receive a generous deposit of gold or platinum in toning. Upon these qualities depend not only the brilliancy of a print but its permanency.

"BUSINESS IS GOOD," writes Mr. JAMES H. SMITH of burnisher fame, 311 Wabash Avenue, Chicago. Those who have not yet secured one of the pocket catalogues issued by this house should do so without delay. It is a practical encyclopædia of photographic information and up to date in all particulars.

"I HAVE TO HAVE IT," is the reason given by Mr. E. J. MCCULLAGH, of Stockton, Cal., for renewing his subscription to this MAGAZINE. Hundreds of other photographers, earnest and prosperous in business as is Mr. MCCULLAGH, have sent the same cheery news during the past month. Let the good work go on. We work for it.

MR. WALTER N. ESCOTT, 519 Fourth Avenue, Louisville, Ky., announces that he has bought the old-established supply business of J. V. SCOTT'S SONS of that city, and invites the patronage of the photographers of the middle West. This firm was established in 1851 by the late J. V. ESCOTT, and has always held an enviable reputation for fair dealing.

Cyclopædic Photography.—Since the Convention this standard cyclopædia of photographic information has enjoyed a vigorous boon. As a general reference-book *Cyclopædic Photography* stands unequalled; it is concise, and yet full enough for satisfactory use. There is something said upon every topic of interest to the practical photographer, the space given depending upon the importance of the subject. Price $4, postpaid, to any address.

ST. LOUIS, Sept. 1, 1897.

TO THE PHOTOGRAPHIC FRATERNITY:

We feel that an explanation is due to our many friends who have suffered inconvenience on account of our failure to fill their orders with the customary promptness.

There has been a phenomenal increase in the orders for the Cramer plates during the last three months, so that at the present time the demand far exceeds the supply, and we are way behind in filling our orders.

However, we are at the present time busily enengaged in enlarging our capicity, and are pushing matters to completion with all possible dispatch. When the improvemennts which we are making have been completed, we hope to be in a position to fill all orders regularly.

Thanking you for your valued patronage and craving your indulgence for a short time longer, we remain, Yours fraternally,

G. CRAMER,
Dry Plate Works.

OUR READERS will be pleasantly surprised to learn that the fine portrait of Miss SHERROD, which formed the centrepiece of the advertisement referred to at page 207 of our May issue, was made by Mr. J. C. STRAUSS, of St. Louis.

A FEATURE of "R., M. & W." printing-out-papers that artists generally can appreciate is the absence of arbitrary conditions regarding the kind of negative to be used. Special negatives are not required. The artist simply makes the best negative he can, prints slightly deeper than for a gold tone, and tones in the gold bath long enough to develop the high-lights clearly. The result of this manipulation is that roundness, brilliancy, depth, and softness so much desired by the up-to-date photographer and so pleasing to his patrons. Further, "R., M. & W." papers do not bleach in the toning-bath, and the same negative can be used for both *Glace* and *Matte* surface. In the production of their *Victor* and *Vera*, the REICHENBACH, MOREY & WILL CO. seem to have fully considered every requirement and to have produced a satisfactory reply to every question suggested by the most advanced photographic practice in relation to printing-out papers.

A CORRECTION. We desire to state that the statement, made in these columns a few months ago, that Mr. Jacobi had been manager of the process printing works of Mr. F. Gutekunst, of Philadelphia, was incorrect. It appears that Mr. Jacobi was superintendent of the works, the management remaining with Mr. Gutekunst.

Mr. Gutekunst still continues his process business at 712 Arch Street, Philadelphia, where orders for phototypes and half-tone engraving should be addressed.

APROPOS of the introduction of the new words "Rayfiltergraph" and "Rayfilterography," a definition may be in order for those who may not have been fortunate enough to have learned by experience the application of the terms. A Rayfiltergraph is a photographic negative or print made with the aid of the Rayfilter made by the BAUSCH & LOMB OPTICAL CO., Rochester, N. Y. Rayfilterography is the art of producing rayfiltergraphs.

MR. G. GENNERT, 24 E. 13th St., New York, sole American agent for the Ross Lenses, reports a most successful season in the sale of these well-known objectives. The Ross-Goerz instruments are being largely used for large portrait work, and give great satisfaction. Those about to buy a new studio lens for general use should get Mr. Gennert's new lens catalogue giving full information concerning all the Ross lenses.

TRENOL is a new powdered developer placed on the market by BOSTWICK, HARRISON & CO., 686 Jefferson Avenue, Brooklyn. We have tried *Trenol*, and find it an excellent thing, especially for exposures thought to have received insufficient time. It gives plucky negatives, with clean detailed shadows. As received, it is put up in small packages, containing materials enough for four ounces of solution, which may be used repeatedly.

"AUNE," of Portland, Oregon, sends us an excellent multiple picture representing a gentleman absorbingly interested in a four-hand card game with himself. It would not be difficult to determine the winner in such a game.

MR. W. R. FENLEY, Newburyport, Mass., has opened a new studio, possessing many attractive features, which we hope to notice in our next issue.

L'Illustration du Livre Moderne et la Photographie, par JULES PUISARD, with a preface by VICTOR BRETON. To be completed in twelve parts, of 32 pages each, profusely illustrated with examples of modern illustrative methods. Published by CHAS. MENDAL, 112 Rue d'Assas, Paris. Complete, 20 francs.

This is a work which appeals especially to photographers striving to put their art on a higher plane than that usually aimed at. The first part of the series, now published, contains a superb wood engraving of CHARDIN'S "Portrait of a Woman;" an engraving, in two tints, of ALBERT DURER'S "Head of an Old Man;" a three-quarter-length portrait from life, by ANGERER & GOESCHL, Vienna, and several excellent examples of three-color printing.

WE HAVE RECEIVED a very complete catalogue of supplies and apparatus for process-work from MESSRS. KLINSCH & CO., of Frankfort, Germany, who have recently established a branch house at 47 Basinghall Street, E. C., London. This list covers over 300 pages, and is well illustrated with several choice specimens of reproduction-work in black and white and colors.

Picture-Ribbons, by C. FRANCIS JENKINS, Washington, D. C., is an exposition of the methods and apparatus employed in the manufacture of picture-ribbons used in projection-lanterns to represent scenes with their natural movement. This little book, of 56 pages, is, so far, the only separate work devoted to animated photography. It is brightly written and completely illustrated. Price, $5. For sale by EDWARD L. WILSON, 853 Broadway, N. Y.

MR. JOHN CARBUTT informs us that the demand for his new plate, *Eclipse Junior*, has been so great that it has been difficult to manufacture them in quantities sufficient to supply all orders. *Eclipse Junior* is intended chiefly for large consumers, and sells at a popular price, although identical in quality with the higher grades. Readers interested in lantern-slides should send for MR. CARBUTT'S list of plates and other specialties in this line.

THE SEMI-CENTENNIAL CAMERA STAND, made by MESSRS. HORGAN, ROBEY & CO., marches on toward complete success. It is now used in over 700 galleries.

MR. W. F. NYE, Eastern representative of the HAMMER DRY-PLATE CO., of St. Louis, reports continual increase in the popularity of Hammer plates among professional and amateur photographers. A goodly proportion of the prize pictures at the St. Paul, New England, and Ohio Conventions were made on these well-known plates, which well deserve the favor with which they are received.

THE FARRAND CAMERA VIGNETTER is the latest device introduced for the production of dark vignettes in the camera. It is the invention of MR. F. C. FARRAND, the well-known operator, associated with MESSRS. PACH BROS., of our city. MESSRS. E. & H. T. ANTHONY & CO., 591 Broadway, New York, are the manufacturers of this specialty, and will gladly send an illustrated leaflet concerning its usefulness to those asking for it.

PHOTOGRAPHIC MOSAICS, 1898, is now in press, and will soon be ready for delivery. More than ever before, MOSAICS this year will be the American photographer's year-book, full from cover to cover of practical articles dealing with everyday work in and out of the studio, and magnificently illustrated with engravings of the best professional work of the year. A full list of the various attractions of the book will be given in our next issue. Meanwhile we desire to announce that the advance order list is now open, and that the first copies sent out will be mailed to those first on this list Price, in paper covers, 50 cents; library edition, $1, post paid to any address.

"*Le Photogramme*" is the title of a new monthly journal, illustrated, published by Mons. C. KLARY, 13 Rue Taitbout, Paris, France, at twelve francs per year. Mons. KLARY has the only practica school of photography in France, and is one of the most progressive of French photographers. His journal differs from the majority of the French papers by its wealth of illustration and the practical nature of its contents. These, in the numbers so far issued, comprise articles by well-known studio workers, and pictures from prominent galleries in all parts of the world. It is indispensable to those who desire to keep abreast with the progress of photography abroad.

The Process Year-Book for 1897, edited by Mr. C. W. GAMBLE, and published in America by Mr. G. GENNERT, 24 E. Thirteenth Street, New York, at $1, is out, and should be secured without delay by all interested in reproduction work. Good as the previous volumes of this year-book have been, the present volume surpasses them all in interest and pictorial attraction. Collotypes, half-tones with engraving finish and without, half-tone color prints, photogravures, etc., from houses noted for their skill in the various specialties they show, may be studied with pleasure and profit, together with about twoscore articles dealing with the year's progress in photomechanical photography.

Magic, Stage Illusions and Scientific Diversions, including Trick Photography. By A. A. HOPKINS, with an introduction by H. R. EVANS. 500 pages, 400 illustrations. Price $2.50. Munn & Co., 361 Broadway, New York.

This work is a unique contribution to the already extensive literature of magic, and contains more "exposés" of illusions long held as secrets than any similar book with which we are acquainted. The section devoted to Trick Photography is unusually complete, and includes the production of doubles, ghosts, composite photographs, and other forms of illusive pictures. A special chapter is devoted to chronophotography, reviewing the work of Anschutz, Marey, and Muybridge in this direction. Another chapter describes the various methods in use of photographing and projecting moving objects. The book is profusely illustrated with wood engravings and half-tones, and forms a delightful gift-book for all interested in illusions, photographic and otherwise.

OBITUARY.—The many friends of Mr. J. C. STRAUSS, of St. Louis, will hear with sorrow of the further bereavement which has befallen him in the death of his mother, which occurred Sunday, August 29th.

THE VILLAGE CARPENTER

NEGATIVE BY G. H. TINGLEY, MYSTIC, CONN.
PRINTS ON ROUGH CARBON VELOX PAPER.

WILSON'S PHOTOGRAPHIC MAGAZINE.

EDITED BY EDWARD L. WILSON.
JOHN A. TENNANT, Associate Editor.

VOL. XXXIV. NOVEMBER, 1897. No. 491.

ON THE GROUND-GLASS.

CHRISTMAS is in sight at last, and *The Ground-Glass* is focussed upon it in the interests of the fraternity—from a business point of view, of course. It is the greatest opportunity of the year—a time when purse-strings are loosened, when carefulness in spending gives way to generosity, and the luxuries of life receive more attention than the mere necessities.

How appropriately photography comes in at such a season! Did you ever focus on the idea? Christmas is the time when the human interest reigns supreme all over the world, when "affectionate remembrances" are in order everywhere; when the old folks think of the boys who have left home, and the fond young mother would like, most of all, to send grandma and grandpa pictures of her treasures. Everything about Christmas points to the photograph, that most interesting of human documents, that best of all "remembrancers," the "best and cheapest" *fac simile* of what we would like folks to think of at Christmas-tide — ourselves. Surely Christmas is the one word which the ancient adage says is "sufficient to the wise" photographer.

Some days ago the *The Ground-Glass* focussed on the business desk of a city photographer who was Christmas-wise. The place was full of activity, and assistants were busy filling and addressing piles of envelopes. On a side table were three stacks of little folders of heavy linen paper with "deckle" edges, daintly printed in red and black. The front cover of each folder bore the legend, "Why not send a photograph to your friend at Christmas?" and beneath, in small type, appeared the words "With the compliments of ——, photographers," and the address of the studio. The first inside page held a small platinotype print of a child, or woman, or of a man; the second inside page gave a price-list of the various sizes and styles of portraits made at the studio, a special rate being given for quantities of twenty, thirty, and more. Mounts stamped "Christmas, 1897," were to be supplied where desired, or rice-paper enclosures for the portraits, embellished with an appropriate greeting. The fourth or back cover gave notice that "patrons sitting for portraits, or ordering reprints from negatives already in stock, before December 10th, may depend on the delivery of their pictures a few days before Christmas Day." Pictures to be mailed to friends abroad should be ordered earlier if possible.

The suggestion here offered is an excellent one, and, modified in endless ways,

may be applied in almost every studio. When *The Ground-Glass* visited a country studio during its summer vacation it focussed with pleasure upon a photographer quietly filling his leisure hours in producing water-color sketches of wintry scenes, sprigs of holly and evergreen entwined, with a space left for a portrait. These were to be photographed on films, and used as negative vignettes in the production of a special line of Christmas pictures. A less expensive idea employed by a Boston photographer consists of a single card showing a vignette in line of the studio building, and the suggestion that "the most desirable Christmas gift is a portrait," and "the best place to get a good portrait is —— —— studio." With these hints, and the reminder that Christmas is a magic word, the photographer may be safely left to think out for himself an appropriate way of getting business.

One word more about Christmas. The fraternity has set itself to give Jex Bardwell and his wife a home for a Christmas gift, long delayed. Part of the home is already subscribed for, but much yet remains to be done. Will not *every* reader send his contribution at once and insure the success of the home. This will be an easy matter, if all will help.

The International Exhibition spoken of on another page of this number of the MAGAZINE is an affair which deserves a careful focus. It is time that American photographic interests secured wider recognition in the world, and this exhibition affords a capital opportunity. In portraiture, in panoramic and architectural photography, in genre and figure work, in the revival of the daguerreotype, bas-relief photography, photo-sculpture, stellar photography, and many other departments, American photographers have achieved an enviable reputation. In the introduction of apparatus, printing surfaces, such as Velox, aristo-platino, and the like, as well as in the manufacture of lenses and optical lanterns, American manufacturers are well ahead of their foreign competitors. It would be to the advantage of all concerned to give these things adequate display at the Crystal Palace Exhibition next April. *The Ground-Glass* hopes to focus upon a noteworthy American section when the event "comes off."

MOSAICS, 1898, appears on *The Ground-Glass* in all its old glory, with a new cover, and a host of good things gathered and focussed during the year. To make mention of its contents would overtax the capacity of *The Ground-Glass*, but the interested will find particulars elsewhere in this issue. As the volumes of 1897, 1896, and 1895 are almost or wholly out of print, it is obvious that those who focus quickly on the 1898 volume will be least likely to be disappointed by failing to secure a copy. The advance order list already makes a bold showing, although the book has not, until now, been mentioned in type.

According to reports from the trade, the season now opening promises to fulfil all reasonable expectations. The dealers agree in saying that photographers are placing larger orders, and show an encouraging desire to indulge in new apparatus and conveniences. A good deal of activity may be seen, also, in the better class galleries, in the pushing of new styles of work. The demand for higher prices is spreading, and the end of another year will, we are confident, find photographers complaining less concerning the remuneration received for the better grades of work. *The Ground-Glass* focusses, however, upon a big and fruitful field all untilled as far as publicity is concerned, the amount of intelligent advertising done by manufacturers and

dealers being much below what the circumstances justify. Not until the profitableness of advertising is better appreciated, and the selection of means and mediums for publicity is better understood, will the trade feel the benefit of increasing prosperity. At present it may be safely said that more than half the money spent for publicity by the photographic trade of America is wasted by lack of judgment and false economy.

The Velox prints, on glossy, matt, and rough carbon paper, used in the making of the frontispieces of this MAGAZINE during the past year have attracted wide attention among photographers at home and abroad. Surprise has been generally expressed at the possibilities revealed in these pictures, possessed by Velox paper, for portraiture as well as outdoor subjects. *The Ground-Glass* focusses with pleasure upon the excellence of this novel printing paper, and congratulates its manufacturers, the Nepera Chemical Co., for their enterprise in its production. Velox paper is an American invention of which American photographers may justly be proud.

DOUBLE-COATED PLATES AND DEVELOPMENT.[1]

BY M. A. SEED.

THROUGH the kind invitation of your worthy President I am here that we may have a little talk together, not exactly an address, as I do not feel myself sufficiently competent for that, but I repeat, a little special talk. I would therefore be pleased if you would ask questions freely as we progress, taking up the various subjects as they are advanced. If I am able to answer your questions I will gladly do so; if unable, will not hesitate to say I do not know. Your President desired that I should talk on double-coated plates; another gentleman asked that I should speak on developing. We will try to talk about both. I suppose you all know how the double-coated plates are made, but it may not be amiss to go over it briefly, so you may thoroughly understand how they are manufactured, and I think it will help you to understand better how to work them. All non-halation plates are not double-coated. Some are made by putting something on the back—a black backing—and they are very good, too—that is, they prevent the light that escapes through the film from diffusing. There is another kind which contains a dye in the substratum, which is also pretty good, and answering the same purpose; but a double-coated has other properties besides preventing halation. The first coat that is put upon these plates is a slow emulsion, or what we call 23; the second coat is put on after that is dry. This is what we call a 26x. These plates are intended for use where there is a higher range of light and shade. It is not required in all subjects. Suppose you take an interior, and you have the windows before the instrument; it is a very powerful light, but in the same room you have deep shadows. What you want is to retain everything that the camera sees right in the films. You want to give sufficient exposure so as to get the definition in the deeper shadows, and at the same time not lose it in the strong lights. You will understand that light as it penetrates the film continues to penetrate as you expose. You must give sufficient exposure to get in the deeper shadows. If that exposure has been so long that the strong light has gone through we have lost a proportionate amount of detail in the high lights. Suppose we

[1] A paper read at the Michigan Convention, February, 1897.

divide the strong light into five. We will say the strongest light of all has escaped. The second has escaped, the third, fourth, and fifth have gone just through the film. The result is, you have a strong light without definition, or which is blended into one, giving a flat high-light. But if your film checks the force of that high-light, the strongest light penetrates into the first film, say half through; the second, quarter through; the third just touches it; the fourth and fifth in the upper film, and all the middle tints and detail in the shadows also in the upper one. When you develop you retain everything. So, if you had a strong light coming through the windows and shining on some of this statuary, you would get modulation in the strongest lights, because it is all there, and nothing escapes. In a single-coated plate that light would simply be a flat mass of light and appear as a piece of white paper pasted on; so, also, a snow scene. You would not be able to see those delicate intonations, those pretty little shadows; it would be a mass of bare white. But, as I said before, retain everything in the film, and you get it in the negative. There is another property which we did not at first understand, and it is, which gives this plate a greater value. What I mean is this: it contains isochromatic qualities.

We will suppose a subject containing blue, yellow, and red, and we expose sufficiently long for the red, of course overexposing the blue, which has penetrated the upper or 26x film and to a certain extent into the lower or 23 film. This overexposure has produced in the upper film a reversal, reducing the strength of the blue to that which is alone produced in the lower film, the yellow not having received sufficient exposure to produce a reversal, has increased in strength, having caught up to the blue or even has become stronger. The red also has had time to gather a certain amount of strength. So that in photographing paintings a double-coated plate should be used. We have parties writing us that they like these better than the isochromatic plates. We have found it so, and we have made very long exposures of interiors, and found the windows were transparencies, the street scene perfectly transparent through the films. The inside was all right. These are the plates to use if you have flowers to photograph, or engravings, because it gives you the strong lights that you want there.

You want a copy of an engraving not to be flat in the lights, but pure white, and you want the shadows bright and clear; this you can get also. But to secure the proper effect from a double-coated plate it is necessary to have a developer made accordingly. You do not want a developer to act on the upper film too vigorously. You want a developer that will allow you time for the upper coat to be penetrated and to act on the under coat sufficiently to bring out all there is. All that is necessary, then, is to treat the normal developer with double the amount of water. It takes longer, but it allows the developer to penetrate gradually, and after it has entered the surface the action is more rapid. It goes into the under coat and brings out every gradation of tone. There are, however, chances for failure in using double-coated plates. We have received pictures said to be made on these plates that showed a tremendous amount of halation, more even than was produced on a single-coated plate, leading the photographer to believe that there was no advantage in the use of these plates. Upon investigation it was found that the lens was not absolutely clean, and being pointed toward a very strong light, there was a diffusion of light in the camera, fogging to a certain extent the whole plate, but especially round the windows. Take your lens to sunlight and examine it; you will then see whether or not it is clean. If it appears at all smoky, take it apart care-

fully, but first spread out a clean sheet of paper, dust with a clean camel's-hair brush the lenses and rims as you separate them. Now make up the following solution:

Water	4 ounces.
C. P. Nitric Acid . . .	16 drops.
Alcohol	1 ounce.

With a tuft of absorbent-cotton dipped in the above solution clean the lenses well and polish with a brush and chamois, which must also be absolutely clean and kept in paper, free from dust, to be used for no other purpose than for cleaning lenses. There is another cause for what appears to be halation. Suppose you are taking an interior having several windows, only a few of them, however, come in the picture. We will suppose you are taking an 8x10 plate in a camera of that size, using a short focus wide-angle lens; some of the windows will be focussed on the side of the camera and be reflected on that portion of the plate perhaps just where there is a window. To prevent this draw a screen sufficiently near to the lens so as to cut off all side-lights that are not intended to be taken in the picture. One of our men experienced the difficulty above referred to while taking interior views of the beautiful studio of Mr. Steffens, of Chicago. In Mr. Steffens' private office there are two windows, but only one was seen in the picture, the negative showed immense halation around it, but upon investigation it was discovered that the mischief was done by the other window, the light of which passed through the lens and was focussed, not on the ground-glass, but on the bellows of the camera, illuminating the whole interior of the camera, but especially throwing a strong reflection on that part of the plate where the other window was. Another negative was made, and it was perfect.

A great many are using non-halation plates for flash-light, and there is nothing better. But care again is necessary. The best place for a flash is not behind the instrument. But many say, if you don't go behind, it will shine in the instrument. Not necessarily. The best way is to put the flash-light as high as you can and as far to the right or left of the camera and as near to the subject as possible. You can shade your lens, then you will get a picture that will surpass daylight pictures, having a concentrated light.

In lighting subjects in your studio for Rembrandt effects, it is necessary that you face your instrument toward the side-light. Look on your ground-glass, and you will find the whole picture is illuminated with a diffused light, injuring, of course, the shadows of your pictures. Now have some one draw up a screen, so as to entirely shut off the side-light from the lens, and you will see how wonderfully the image is cleared up.

In regard to lighting, I would remark that many pictures in our exhibit would have been wonderfully improved if the lighting had not been so uniform over the whole. The result of such an effect is that some portion, perhaps the trail of the dress being under the strongest light, forces itself upon the eye first. Then you will take in those portions next in illumination; finally by a certain amount of effort, you discover that there is a face shaded under a hat. Now reverse the order; let the face be the first to strike the eye, on account of higher illumination, then the upper part of the figure, afterward the lower outlines, finally the accessories, and last of all the background, and you have a picture that the eye can rest upon with satisfaction. There are things in those deeper shadows that keep coming out. You do not want the whole picture to strike you in a moment; you want to study it, you want to see the beauty of it every moment more and more. Mr. Steffens told me he was intending to have some of his pictures at the National Convention. He is an artist of the first water. There is one thing that he is emi-

nently able to control, the expression, and bring it in harmony with the lighting. You cannot always get your subject to enter into your own feelings; but he is wonderfully successful in this.

Now we will consider development; but first let us examine our developing light with a small pocket spectroscope, and we will find nine out of every ten ruby lights allow blue rays to pass through them, rendering the lights unsafe in proportion to the amount. A deep orange in connection with the ruby will generally make it all right. If the orange is not deep take two lights. If you have the proper quality of light you may have it much stronger and work with much more pleasure than is usually the case, though we would here remark that, strictly speaking, there is no such thing as a non-actinic light. I would therefore advise care during the first part of development. Develop on one side of the light and not strictly in front. Don't lift your plate out of the developer until it is at least over half developed. Then hold it up to the light as short a time as possible. Remember that the light one inch from the ruby glass is sixteen times stronger than it is four inches away and sixty-four times stronger than it is sixteen inches from it. So you can see how quickly a very sensitive plate may be fogged by holding too long near the light. There is, however, less danger as the development proceeds. The above care is especially necessary with the Seed plate, it being to a certain degree sensitive to yellow light. On this account it will be found that even if your operating-room light becomes yellow in the afternoon or during the fall or winter seasons, the Seed plate does not lose in sensitiveness.

Next to the developing light we will take up the question of water for making up the developer. First, it must be free from organic matter, otherwise it will cause your developer to discolor rapidly and stain your negatives. Well-water free from iron is good, so is melted ice (not what is termed ice-water, which is simply ice with a lot of water added), but melted ice; it should, however, be filtered. Distilled water, of course, is the best, though much of the so-called distilled water is nothing but condensed steam, which has passed through iron pipes, consequently contains more or less iron; this should not be used. If, however, you have nothing but river- or rain-water, boil it, then cool and filter, and it is all right.

Pyro should be pure, white, fine, sparkling crystals; it should dissolve in a few seconds. If you find it a dirty, dead white, giving you a muddy solution, and if it takes long to dissolve, reject it and get another sample.

The sulphite of soda should be pure white, clean, clear crystals. Purchase that only which is put up by the manufacturers in bottles. What is sold in bulk is often unfit for use, due to the action of the atmosphere turning it from a sulphite to a sulphate, in which condition it is entirely useless, causing the developer to decompose rapidly, prolonging the development, and producing yellow negatives. Test your sulphite with litmus paper to see if it is not alkaline. It should be neutral. If it is only slightly alkaline, however, neutralize with sulphuric acid. The amount of sulphite you use must depend upon the color of negative you want. I consider the best color a brownish or yellowish black, not a blue-black. The latter makes a very pretty looking negative, but not a good printer. You will find the definition in the shadows shown in the negative is lost in the print, due to the blue color.

Sal soda or carbonate of soda crystals should be clean and clear, not chalky. The water of crystallization will dry out if exposed to the atmosphere. It is not thereby unfit for use, but it is stronger in proportion to the amount of drying out it has

received. If it has pulverized and dried to a white powder, one and three-quarter ounces is equal to four ounces of fresh crystals. So you can readily understand how there may be trouble with flatness and softening of the film in warm weather, if such a carbonate of soda is used. If the developer is made up with the use of a hydrometer, it makes no difference whether the sulphite of soda is in clear crystals or has melted on account of heat, or the sal soda is in clear crystals or dry and chalky, as in water the specific gravity is not affected by these conditions. We might here remark that the larger the amount of organic matter contained in the water used for developer the more sulphite of soda is required to obtain the desired color of negative. For instance, twice the amount is needed in St. Louis that is required in some other cities which have lake or mountain water. The other day we had a communication from one of our demonstrators who had a controversy with a customer as to the best printing color for a negative. The photographer contended that a blue-black was the better, but our representative that a yellowish-black would make a more brilliant print. Two negatives of the same subject were made; the yellowish one had a thinner appearance, but upon printing it was found that the flatter looking negative gave by far the most brilliant result, and thoroughly convinced the photographer that the latter was to be preferred. Oxalate and iron give just the color of negative that is not a good printer. But there are other conditions which affect the color of the negatives—for instance, developing in an iron tray, where the enamel is cracked and the iron exposed to the developer; the making up of pyro stock solution in too large a bottle, allowing too much air in the bottle to act on the solution, causing rapid discoloration; but, above all, the temperature of development has to do with the color of the negative. If cold, the negative will be blacker; if too warm, more rapid decomposition of the developer will take place and cause more or less stain. In winter the room should not be allowed to get colder than 75°; in summer, of course, you cannot keep it too cool. The more uniform you keep your developer the more uniformly good will be your results. I was called to a gallery some time ago; they had trouble in development. The dark-room was on the roof with a thin board partition, the sun shining full upon it, and no ventilator. The temperature of the dark-room was about 100°, and I am sure in winter it must be difficult to keep things from freezing. Under such conditions uniform work could not be expected. It is just as certain that the photographer should comply with certain required conditions to be successful, as it is for the manufacturer, who must control conditions of air and water, both as to temperature and purity. River-water is never uniform as to purity; in winter, when the country is frozen up, we generally have nothing but spring-water, but during the rainy season surface-water is washed into the rivers, and all kinds of decomposed animal and vegetable matter carried with it to a greater or less degree, causing not only the developer to act variously, but producing bubbles in the developer, making round pin-holes from the size of a pin-head to the eighth of an inch. But, as we have said before, if this water is boiled and filtered it is all right. A clean lens, pure chemicals, uniform temperature, uniformly pure water, and your difficulties will be very few. I have met with photographers who were nearly beside themselves on account of trouble. Just through ignorance of some little requirement they have to make so many resittings and ruin their reputation and trade. It is a great pleasure to us to put such a one right without the least additional expense. We have made many happy in this way.

Accept my sincere thanks for your kind attention. And now if there are any questions, I am at your service.

A MEMBER: I would like to ask what temperature you consider best for developer?

MR. SEED: The winter temperature should be about 75° to 80°; the summer temperature should be as low as you can get it. For instance, in winter you could commence to develop with a warmer developer, because everything is cold, and it will get colder as you proceed. In summer it is the reverse; you commence with a cooler developer, and it gets warmer.

A MEMBER: Do you prefer pyro?

MR. SEED: I do not think it can be improved upon. Many object to it because it stains the fingers, but if you have a good quality of sulphite it will not stain so badly as the poorer quality. It is less likely to soften the film. You will find a negative developed with metol is very smooth. The objection to metol is, it is poisonous to some people; if you feel a tingling in your fingers stop using it. There is a way, however, that makes it safe if you will take the trouble. Take beeswax and a little ether, make a solution and rub that over your fingers, and then you can use the metol without any danger. A photographer not long ago, using metol and having used it for some time, was asked: "Does it hurt your fingers?" "Not at all." "What is the matter with your wrist?" He answered: "I have had that for five months, and my whole arm is covered with it." "When did you commence to use metol?" He said: "It is about five months ago." The fact was, it was affecting his arm; not his fingers. But by using this beeswax you are assured. Many it does not affect at all.

A MEMBER: How about the fixing-bath for double-coated plates?

MR. SEED: Our regular hypo bath is all right, but it takes more than twice as long to fix the negative. In the development of a double-coated plate you must not be deceived with the intensity of it. You start with two films, and it looks very intense. You must carry development considerably further than a single film negative. I think it is important for double-coated plates that the fixing-bath should be renewed pretty often, and not use an old bath; and, again, on account of the two coats, considerable washing should be done. It has to penetrate to the bottom of the under film, and that takes a little time.

A MEMBER: Is an hour long enough for washing?

MR. SEED: Plenty; I think half an hour is long enough in running water, but an hour's soaking would be sufficient. A word in regard to development in hot weather. A photographer came to our factory from South America, and I remarked to him: "Don't you find it difficult to get ice there?" He said: "We don't get any ice." "What is the temperature of your room?" "Ninety to one hundred degrees." "Have you any difficulty?" "Not at all." "What do you do? Use alum?" "No." "What then?" "I simply mix up a new fixing-bath every day. I make up a new bath and put my stock solution in that, put it in my tray, cool it off, and develop my negatives, and that new fixing-bath hardens the film. You may make an old fixing-bath as cold as the new one, and it will not harden the film. The new hypo has that property of hardening. I have no trouble with my negatives."

A MEMBER: Did I understand that an alkaline fixing-bath was the best?

MR. SEED: I think it should be as near neutral as possible. There is one great danger of an acid fixing-bath; if you develop a plate and do not wash it sufficiently, you can see the action of an acid and an alkali that takes place in the film. In the fixing-bath you have a great deal of

alum that hardens the surface of the film. The action of the acid and alkali is going on beneath and forms a gas, and that gas cannot escape on account of the outer surface being hardened, ruining the negative. But if the negative is well washed before being placed in the fixing-bath there is no danger.

I thank you again, ladies and gentlemen, for your kind attention.

A WORD TO PHOTOGRAPHERS AND THE TRADE.

In the early days of photography as a business the common way of introducing new processes and novelties in apparatus to the notice of the fraternity was by personal demonstration at the studios of photographers. For this purpose the country was mapped into sections, and "territorial rights" sold, limiting the scope and activity of the agents interested in this or that introduction. This was before the day of the innumerable stock-houses and journals now dotted over every part of the country. The method of securing business was, of course, necessitated by the lack of means of publicity or advertising, and of proper distributive facilities. Naturally it proved cumbersome and expensive from the trade point of view. From the photographers' point of view it had several disadvantages, affording, as it did, abundant scope for unscrupulous dealing and misrepresentation. The agents employed to sell processes, formulæ, or apparatus were seldom persons to whom any responsibility could be attached. They were here to-day and gone to-morrow. The indorsements by prominent members of the craft, which they carried with them to convince photographers of the genuineness of their wares, were more often spurious than *bona-fide*. The processes and formulæ were often such as work only in the hands of their inventors or sellers. The photographer generally came out "at the small end of the horn," and the very name "process-monger" indicated the opinion of the fraternity concerning those engaged in the work.

As photographic journals and stock-houses multiplied the occupation of the "process-monger" steadily declined. Photographers recognized that their journals gave all the formulæ and processes essential to successful manipulation, and that the editors of their journals were reliable men, whose opinion could always be had for the asking, and depended upon. It was repeatedly shown that processes sold in the smaller towns (at fabulous prices) were simply copied from this or that photographic journal. The earlier volumes of this Magazine contained many *exposés* of these fraudulent practices, and gradually photographers learned to consult the pages of their journals for information of what was new and reliable in their profession.

Latterly, however, the strenuous competition existing in the manufacture and supply of photographic materials, etc., has given birth to a new race of process pedlers whose tactics are sometimes as unscrupulous as those employed by their predecessors. An instance comes to hand in our current mail. The agent controlling the sale of a bas-relief process in the Eastern States called upon a well-known photographer and endeavored to dispose of his process. The photographer was not disposed to buy, and the agent became pressing. Among other inducements he displayed a number of testimonials to the business value of his process, signed by many leading workers in the profession. His efforts were unavailing, and he departed. Later the photographer heard from a brother professional who *had* in-

vested in the process, induced thereto, in a measure, by the exhibition of an alleged testimonial from the photographer first mentioned, *who had refused to buy the process.* This testimonial was, of course, simply a forgery. It shows the spirit animating such enterprises and the character of their sales agents.

In another instance a Western photographer using a bas-relief process was threatened with suit by the agent of another process, for infringement of patented rights. As usual, there was here noisy assertion of claims with little to support them except bluster. A third case concerned the introduction of a process for making photographs in colors, which, as a matter of course, was a clumsy fraud as far as the direct photography of colors was involved.

These instances might be multiplied indefinitely, but of what use? The photographer who subscribes for a reliable journal —that is, one edited and published as this MAGAZINE is, solely in the best interests of the craft, is forewarned and forearmed against deception and trouble. The moral for the trade is equally plain: let manufacturers and dealers in reliable photographic supplies advertise their wares in a photographic paper which offers its readers a guarantee of protection against "fakes" and things "made to sell." The process monger belongs to a past age.

TESTING PRINTS FOR HYPO.

EVERY one has felt at some time or other the need of a rapid method of testing prints during washing, in order to find out if all the hypo has been removed, and probably, on looking up the subject in his text-book, has seen it stated that a weak solution of permanganate of potash or of iodide of starch, if painted on the back of a print, would lose its color if any hypo were present.

This is, of course, perfectly correct, but it unfortunately happens that hypo is *not* the only substance that will discharge the color of permanganate of potash or iodide of starch; permanganate of potash is particularly subject to decoloration by many other substances.

How easy it is to fall into error with regard to the permanganate test is shown by a communication we have recently seen to the Britannia Works Company, in which it is stated that prints on P. O. P. which have been fixed and washed before toning would not give satisfactory results in the toning bath.

In order to discover the cause, the baths and washing-water from the prints were tested for hypo, but none was found; however, on testing the prints as they came from the washer by painting on an alkaline solution of permanganate of potash, it was at once turned green and afterward brown, showing apparently the presence of hypo.

Prints were then placed in a large washer, passing ten gallons of water per hour, and prints withdrawn at the end of 2, 4, 6, 8, and 12 hours, and, on being tested with alkaline permanganate of potash, hypo appeared to be present.

When one comes to examine more closely the method of testing, it will be found, under the circumstances detailed above, to be utterly unreliable, as the following experiments will show.

A solution of permanganate of potash was prepared and made alkaline by the addition of a little caustic potash, and this solution was painted on a piece of very pure ash-free filter paper. This paper was free from everything except a trace of silica. The pink color of the permanganate was at once changed to a green, passing into

brown, and, on repeating this test with the same paper, but now dipped into a weak solution of hypo, exactly the same change took place.

As an acid solution of permanganate is usually recommended, a solution of this salt was prepared containing a small quantity of sulphuric acid, and the test repeated with it. In this case the pink color changed, but more slowly than with the alkaline permanganate, and there was a considerable difference in the time required to alter the color in the case of the pure paper and the paper containing hypo, the latter being the more rapid.

Another test that was made was to pulp three quarter-plate prints by boiling with water and filtering off the liquid; this also, on testing, showed apparent presence of hypo. Here another source of error comes into play. As every one knows, on boiling gelatine prints in water, a large quantity, if not all, the gelatine would go into solution, and, on experimenting with a solution of pure gelatine, we found both alkaline and acid permanganate were decolored.

Another test, given by Fresenius, is that a dilute solution of chromic acid is changed from yellow to green by hypo; but this also is brought about by the action of other bodies beside hypo; for instance, a hot solution of gelatine turns the yellow color green in a short time.

There still remains to be discussed the iodide of starch test, and this under the circumstances of testing as detailed *i. e.*, painting the colored solution on the back of the print, is probably the most reliable. If a weak solution of iodide of starch is painted with a glass rod on the back of a piece of pure paper, it gives a blue stain; but, if a small quantity of hypo still remains in the pores of the paper, the color is discharged. Even this test is not quite certain, neither the paper nor the gelatine alters the color; but traces of alkali, such as soda or ammonia in the presence of nitrates, which often occur in water and many other substances, discharge the blue color.

In fact, by far the best test of the freedom of the prints from hypo is the knowledge that they have been kept in constant movement and prevented from sticking together either in a good washer or by hand, with constant change of water; one hour's washing, with attention to each print, is far better than twenty-four hours' soaking in a mass, even if the water be running.—A. HADDON and F. B. GRUNDY in *Photo. Scraps.*

WARM-TONE LANTERN AND TRANSPARENCY PLATES.

BY MILTON B. PUNNETT.

WARM-TONE lantern slides and transparencies, which are very common in England, are, up to the present time, but seldom seen in this country. Whether it is the fault of the manufacturers who have not put a suitable plate for the production of warm tones on the market, or whether it is because there has been no demand for such a plate, we will not discuss. An emulsion to yield warm tones with ease and certainty must contain chloride of silver, either alone or in combination with the bromide or some organic salt of silver.

A common constituent of the organic developers for warm-tone plates is ammonium carbonate, and where an "iron" developer is used citric acid or one of its salts is generally present. A warm-tone plate is usually much less sensitive than a plate made to give black tones only, although some English factories make

warm-tone plates suitable for reduction work. The writer's experience has been that it is much harder to obtain clear, handsome warm tones with such a plate than with a much less sensitive one. "Everything has its drawbacks," and a gain in speed is followed by a sacrifice of other good qualities. The manipulations of a warm-tone plate, although very simple, are a little different from those of a black-tone bromide plate, and the following description of the method of handling Seed's G. B. P. R. Lantern and Transparency Plate, which has just been introduced, will, without doubt, prove of interest to the professional and amateur:

This plate is very slow, and should be handled in *plenty* of *yellow* light. Red light should not be used, as it is difficult with such a light to tell the strength of the image.

Developer.

A.

Water (distilled) . . .	16 ounces.
Hydrochinon	120 grains.
Sodium Sulphite (crystals) .	1 ounce.

B.

Water (distilled) . . .	16 ounces.
Caustic Soda	60 grains.
Potassium Bromide . .	60 "

C.

Water (distilled) . . .	16 ounces.
Ammonium Carbonate . .	120 grains.
Ammonium Bromide . .	120 "

Exposure can be made to diffused daylight, electric arc light, incandescent gaslight, or the light of burning magnesium ribbon.

As the latter is a very *uniform* and cheap light (1 ounce of ribbon costing about 75 cents contains many feet), we will express our exposure time in the length of ribbon burnt and the distance from an average negative:

Length of ribbon.	Distance from negative.	Developer.			Color.
¾ in.	1 foot.	1 oz. A.	1 oz. B.		Green.
1 "	1 "	"	"	2 dr. C.	Brown.
1 "	1 "	"	"	3 "	Purple.
2 "	1 "	"	"	3 "	Red.

One inch of magnesium ribbon at one foot distance is equal to about five seconds' exposure to the average light of a photograph gallery, or two minutes' exposure one foot from an incandescent gaslight. An ordinary bright gas or kerosene light can be used, but the exposure is much longer, and the distance from the negative should be reduced to about six inches.

The following rule holds good within certain limits: "The shorter the exposure and the more of 'C' is used the more blue purple will be the image." But if the exposure is too short, or if too much of "C" is used with a comparatively short exposure, the image will be too contrasty, and the development will be so prolonged that fogging is apt to ensue.

When "C" is omitted the color is always some shade of green, while no matter how much of "C" is added, if a comparatively long exposure is given, some shade of red is produced.

By a proper adjustment of the exposure and the amount of "C" intermediate shades of the colors mentioned can be produced.

The warmer the tone of the image the more it loses in fixing, and, therefore, allowance should be made for this, and the development carried further than what appears to be necessary when examined by transmitted light. The image when dry is considerably denser than when wet, and the color also changes accordingly. Another great advantage of these plates is the practically grainless structure of the image.

THE KROMSKOP (Ives' photo-chromoscope) has at last been placed on the market, with kromograms for viewing therein. They are introduced by an English syndicate, presumably the owners of Mr. Ives' patents relating to this instrument. The cost of a kromskop is about $25.00, and of the kromograms $1.25 each.

PAPERS FOR PROFESSIONAL PHOTOGRAPHERS.

BY JOHN A. TENNANT.

XXX. FIGHTING UNSCRUPULOUS COMPETITION.

A TEXAS subscriber, renewing his subscription to the MAGAZINE as an evidence of good faith, sends me the most difficult problem I have yet received for discussion in these papers. It is the eternal question: "What is to be done with the 'Cheap John?'" Of course, I do not pretend to be able to solve a problem which has vexed the fraternity since photography began. It will, however, serve as a peg on which to hang a few thoughts which may help some one, so I give his letter. He says:

"I once had some ambition, and took a pride in my profession, but they are both about gone. I used to vow never to go into a price-cutting war, but circumstances force us into many a hole we would otherwise avoid. This is a university town and a stronghold of Methodism. Unfortunately for me, financially, I am not of the Methodist persuasion; neither is my competitor, but his brother is, and 'that's what the matter with Hannah.' He had the university and I had the country trade, until he wanted everything in sight, and therefore cut his prices from $3.50 per dozen cabinets to $2.50. The war has been on six weeks, and prices now stand at $1.25 in my studio and less in his. Now you will say that this is ridiculous, and friend Tennant would probably give us the old gag, 'Improve your work and get better prices.' This might apply if the other man did not make good work, but he does, and his display equals that seen in the larger cities. Well, the fight is on, and I am in it to the end. I send you two of my competitor's advertisements and samples of the work I am turning out at $2.00 per dozen. I came here first, and expect to stay. What am I to do with such a competitor?"

It is evident that things are lively in that Texas town! The work sent by the photographer as a sample of the $2.00 a dozen style is good, and such as generally sells readily at $3.00 to $5.00 per dozen. The advertisement of his competitor speaks for itself; here it is:

I will make
Your Picture
CHEAPER
Than can be
had elsewhere in
this town
Regardless of Price.
WOOD
THE Photographer.
GALLERY OPPOSITE DEPOT.

It is indisputable that the "Cheap John" is a grave problem to many ambitious and capable photographers in the smaller towns. It is also indisputable that, as long as human nature and photography as a business are what they are, the "Cheap John" will have to be reckoned with as an inevitable thorn in the flesh. No cut-and-dried plan can be laid down for the extinction of the species. Each instance must necessarily be dealt with according to its peculiar circumstances. For myself, I believe that the best way to deal with the pest is to

leave him to his own self-destruction. This end is tolerably certain, though it may seem exasperatingly slow in arriving. While waiting for his end I would help him to attain it by advertising as far as possible the fact that the "cheap" photograph is dear at any price. There is enough argument in this idea to provide data for a month's live advertising. Of course, a man who begins to cut prices to meet his competitor cannot do this.

Sometimes, however, this plan does not commend itself, or circumstances—*i. e.*, lack of power to hold on—give the photographer no choice as to the method. This has happened in many cases. When the photographer's professional existence is threatened, and it is simply a case of cutting prices or clearing out of town, then, if emigration were undesirable, I would cut prices and force the issue. Shakespeare puts it pithily where he says:

> "Beware of being in a quarrel,
> But being in one, so behave thyself
> That thine adversary may remember thee
> So long as life shall last."

This is the case of the Texas photographer: the "war is on," and the end is to be determined. It seems to me that the issue depends on the reserve power of the respective competitors. It is an instance where an ounce of forethought is worth a ton of the other sort. Success is bound to be with the one who has the biggest bank account and who uses it most intelligently and energetically. These things—money, energy, and intelligence—constitute the reserve power of the business man for "contingencies," and the wise business man will gauge these things in himself and in his competitor before he enters for the tug of war.

Having estimated the sinews of war on both sides, and determined to fight, the campaign should be vigorously pushed through to a finish. Intelligence, energy, and whatever money is available should be made to do their utmost. No avenue for securing public attention should be neglected; no time lost in occupying every advantageous position; no quarter asked nor given. The field of war in this case covers the university, the outlying country trade, the local press, and the townspeople. Lacking a Methodist brother with a "pull" at the university, the "mammon of iniquity," otherwise, one's bank account, should be used to secure a friend there who will stick closer than a brother. This may be managed purely as a matter of business, at so much per centum on the business secured from the university. The country trade can be canvassed on the same basis, or on salary and commission, if laborers are slow to take hold. The local press can generally be subsidized by offering a bigger advertisement contract, with the condition that the other man shall be debarred the privileges of publicity. Through the newspapers and by circulars or handbills the townspeople can be talked at "in season and out of season," until they have been interested in the campaign and made to contribute their share to its progress. All this can be done with a little thought and money, and it cannot but help business in a general way.

The literature of the campaign, whether by advertisement in the local papers, or by handbills at $1 per 1000, should be made a powerful weapon, not of personal abuse or uncharitableness, or bitter feeling, but animated by lively sarcasm and honest scorn aroused by the sham methods of the competitor and his mistaken notion that the people of his town desire cheapness before quality.

In other words, the campaign should be made a campaign of education, so that the public may clearly understand that honest work requires an honest price; that photographs are records which increase in value with their age, and should be made

to last; that photographs which fade are shams and dear at any price; that "cheap" prices mean poor material, "scamped" work, and unreliable pictures; that there is much more in a photograph than appears in the outward appearance, and so forth.

If a special line of work can be arranged for at a special price, the new introduction should be prepared and pushed out as quickly as possible. For instance, a 10x12 plain paper enlargement, mounted and fairly finished, can be had for sixty cents, if a reasonably large number can be ordered. One such picture can be offered with every dozen cabinets if the price of these has not been reduced. Or a cabinet mounted on a large mount—say, 10x12—and slightly tinted, can be given to patrons ordering a dozen pictures. The mount for such a picture will cost about four cents; the tinting can be done, even by a novice, in less than ten minutes. Similar inducements (hateful in themselves, but useful in emergencies) will suggest themselves.

The chief thing, as I have said, when once a fight is entered upon, is to cover the whole field as quickly as possible with intelligent helpers, canvassers, advertisements, and all the persuasive inducements you can offer without losing self-respect or cash. The extra outlay for advertising, etc., will generally be found to stir up sufficient new business to pay for itself in the end. This is the general experience of those who fight—and win.

NEWS AND NOTES.

DUNCAN C. DALLAS, the originator of the photo-electric engraving processes known as Dallastype, Dallastint, etc., has established in London a school of practical instruction in these processes. Mr. Dallas is a pioneer in photo-engraving, and was one of the first to bring the process into commercial use. In 1854 he organized a company to work the Pretsch process (modified) in England, since which time his name has been prominently identified with photo-mechanical reproduction. The Dallastype process is based on the use of a grain instead of the usual half-tone screen, and is said to be peculiarly adapted for three-color work in newspaper printing.

EMERSON'S *Naturalistic Photography*, which caused such a sensation on its first appearance a few years ago, is now being republished, with revisions and additions, in the *Photographic Times*. It will be published in book form shortly.

THE RADIOTINT PROCESS. A recent number of *Apollo* contains interesting information concerning the Chassagne-Dansac process known here as "Radiotint." The syndicate that acquired the right to use the process commercially made propositions to various firms for the granting of licenses; but it appears that only two, Messrs. Anthony & Co., of this city, and Messrs. Unger & Hoffman, of Dresden, entertained the proposal seriously. Messrs. Unger & Hoffman stipulated that the whole process should be demonstrated in the presence of experts, who should satisfy themselves of its genuineness and applicability to industrial purposes. This caused difficulties, and it was not until the firm declared that it must decline to proceed further until these conditions were accepted that a demonstration was promised. Early in July a gentleman presented himself to Messrs. Unger & Hoffman, from Paris, with the secret preparations in a locked case, and announced himself as a pupil of M. Chassagne. It was thought by those present at the demonstration that the plates had to be prepared with a mother-solution, but to their astonishment the operator declared

that any prints could be used. An array of brushes and colored fluids heightened their astonishment, which reached its culmination when the operator inquired the color of the lady's dress and hair. Further questions elicited the information that it was, of course, necessary to know the color to attain the proper effect. The writer thinks the chief point of the process is to be found in what was described by the demonstrator as its principal advantage, "a permeation of the prints by the colors and their combination with the silver image." The mother-solution may act as a species of mordant, and enable the dyes to form organic compounds, whereby the colors do not affect each other as they are successively applied. The colors being transparent give intermediate shades suitable to the subject if correctly applied, but this requires skill; consequently the process is not automatic. Needless to say that Messrs. Unger & Hoffman declined to negotiate further.

A New Albumenized Paper. Drs. M. Jolles and Leon Lilienfeld, of Vienna, who have been experimenting to find other substances serviceable as vehicles for the emulsification of silver in the manufacture of printing out papers, have succeeded in producing an entirely new printing surface. With the proteids obtained from maize and other husked seeds they have produced a printing paper which they claim is superior to any prepared with gelatine, egg-albumen or collodion. The new paper is likely to be known as "protalbin" or "phosphalbin paper." The proteid emulsion is prepared for coating with alcohol, and, as it does not contain any sulphur, should give permanent prints. The paper is not affected by dampness, and its surface will bear rubbing with the fingers without injury. The glaze is rather higher than that given by an albumen coating, the gradation of the prints is satisfactory, and the shadows are deep and brilliant. With Bühler's sulphocyanide of strontium and gold toning bath the prints take a warm purple-violet tone, and are said to be very effective in appearance.

James W. McDonough, of Chicago, whose name has been prominently identified with a process of color photography resembling that of Prof. Joly, died recently in Chicago.

An Autobiographical Sketch. In the last number of *The Practical Photographer* Mr. H. P. Robinson tells of his beginning in business as a professional photographer in 1857. He began with $500, loaned by a friend, renting a house at Leamington at $400 a year, and building his studio in the garden at the back of the house. Many came to see his specimen display, but not until after a week did he receive his first genuine sitters. A lady and two daughters came for a whole plate group. Mr. Robinson recalls that he was "sitter shy," and could not face them. He fled and quieted his nervousness, then came back and made the group.

An Indian Exhibition. The tenth annual exhibition of the Photographic Society of India will be held at Calcutta during January and February, 1898.

Alagraphy is the name of a newly patented process for producing lithographs by aluminum plates instead of the stones generally used. An account of the process, with several "alagraph" appears in the October number of the *Studio*.

The Cinematograph. An interesting *resumé* of the evolution of animated photography, from the familiar "Wheel of Life" of childhood days to the perfected cinematograph of to-day, is given in *The Amateur Photographer* of September 24th.

Louis Thors. *San Francisco.*

SUGGESTIONS IN POSING AND LIGHTING.

THE STUDIO AND WORK OF LOUIS THORS.

On the subscription list of this Magazine, sandwiched in between the humble and mighty ones of the craft, are many names of photographers almost unknown to the majority of the profession, but famous in their respective fields for the fine quality of their work. Among these no name is more honorable than that of Louis Thors, of San Francisco, whose personality and studio are well known to the people of his city and State, but whose work has never, so far as we can recall, been exhibited at the conventions or in the journals of the fraternity.

LOUIS THORS.

When and where Mr. Thors began his photographic career we have not been able to ascertain. Like many another of his class, he is too modest or indifferent to enter into autobiographical details, and so we must be content to take the man and his work for what they are, without explanation. As his portrait shows, Mr. Thors is yet a young man, although we have watched his photographic development with keen

interest for over a decade. It is the head of an artist, refined, sensitive, and yet possessing strong individuality; the faculties

RECEPTION-ROOM.

of perception, form, color, and execution are well developed; the character and temperament shown are such as are admirably adapted to the profession he has chosen. We are indebted for this portrait to the San Francisco *Wave*, an illustrated weekly devoted to topics of the day—art, literature, the theatre, and music. In the pages of the *Wave* during the past few years have appeared hundreds of picture portraits by Mr. Thors—not always faultless, but generally charming, because of their pictorial quality and good technique.

The few examples of his work which we have gathered into the *inset* accompanying this number are fairly indicative of the output of the studio. We believe their variety, in pose and lighting, will be found helpfully suggestive. Excellent though the engravings are, they do not adequately render the finer touches of the work. This was perhaps due to the tone of the prints used for reproduction, an intermediate olive-brown, which is not favorable to half-tone reproduction. Their delicacy of conception and skilful handling are, however, so apparent as to need no comment. Mr. Thors seems to possess the rare faculty of securing in his pictures a sympathetic interpretation of the characteristic mood of his subject; hence, his work has expression as its predominant note, owing to this its life-quality. The first and second pictures at the top of the inset, the fourth and ninth, are noteworthy in this regard.

The reception-room and studio where Mr. Thors does his work do not differ materially from nine-tenths of the studios scattered up and down the country. They are, therefore, chiefly interesting as showing his place of business, and as proof, if proof be needed, that good work depends not so much upon the equipment of the gallery as upon the man behind the camera. The patronage of the studio is secured from the better class residents of San Francisco and its neighborhood. Professional work receives special attention, and many of Mr. Thors' most widely-known pictures are of this class.

STUDIO.

PICTORIAL "CHIPS" FROM A ROYLE ROUTER.

FROM the shops of Messrs. John Royle & Sons, Paterson, N. J., renowned the world over as leaders *par excellence* in the production of tools and machinery for photo-engravers, etc., there has been issued of late years a steady succession of advertising booklets which have received well-merited praise as models of their kind. They are especially deserving of the notice of photographers as attractively setting forth the usefulness of photography to advertisers.

The most recent of these booklets, received a few days ago, is entitled *Chips from Royle's Machines*, third edition. It measures 3½ x 6 inches (designed for mailing in a commercial envelope, cost of postage, two cents), and contains eighty pages of coated paper. Every alternate page presents an illustration, and the cover is printed in two colors, with the title *Chips* embossed in gold.

WOODLAND DEPTHS.

"In the green valley, where the silver brook
From its full laver, pours the white cascade."

Among the illustrations are twenty-six half-tone engravings of pastoral scenes in the vicinity of the Royle shops. These are from photographs by Mr. Vernon Royle, who is already known as an amateur of uncommon skill by the numerous examples of his work given in our pages, in the *Inland Printer*, and other journals.

Two or three of these engravings are reprinted here by Mr. Royle's permission. In common with the other illustrations they are suggestive of the passing of old forms of power and old methods of working by the methods and machinery of today. In this change, to which the perfection attained in the various manufactures is largely due, Messrs. John Royle & Sons have taken a conspicuous part. It may, indeed, be justly said that the mechanical excellence of American photo-engraving is, in no small measure, attributable to the wonderful tools and machinery designed and introduced to the trade by this enterprising firm. From the pictorial point of view the pictures speak for themselves, and their fine technical quality will not escape the observation of our readers. We are glad to give place to them as examples worthy of study and imitation.

Apart from its pictorial interest *Chips* contains some interesting examples of free-hand work, script, and lettering engraved by means of Royle Routers on boxwood, zinc, copper, brass, and end-grained mahogany. There are also shown engravings of two Royle Routers built thirty-five and twenty-two years ago respectively, and still in active service, with nothing but minor repairs. These are striking testimonials to the capabilities and lasting power of the Royle machines. The thirty odd pages of text in the booklet are made up of extracts from engravers, newspapers, and publishers using Royle machines, including all or

ABANDONED POWER.

"I have loved the brimming wave that swam
Thro' the quiet meadows 'round the mill."

most of the best known firms in these lines in almost all civilized countries.

We commend *Chips* to everyone interested in good outdoor photography, process work, and advertising as one of the best things of its kind we have yet seen, suggesting, as it does, the advantages possessed by good photographs as means of attracting and securing attention for advertising matter of any description.

THE DESERTED MILL.

"The broken sheds looked sad and strange
Unlifted was the clinking latch."

THE PRINTING-OUT PLATINOTYPE PROCESS.

THE statement made by Mr. Cembrano in his Presidential speech before the Convention at Yarmouth, which was to the effect that "a paper is much needed possessing the ease and simplicity of manipulation, permanency of results, and beauty in quality of platinotype, combined with the certainty in printing of what are commonly called printing-out papers," naturally suggests to one the printing-out platinotype process, which seems to have been much neglected in England.

This process was suggested by Pizzighelli in 1887, and differs from the other platinotype processes in that the developer is in the sensitizing solution. As a rule, sodium ferric oxalate is used, which, by exposure to light, is reduced to sodium ferrous oxalate and sodium oxalate, according to the equation:

$$Na_6Fe_2(C_2O_4)6 = Na_2Fe_2(C_2O_4)_3 + 2Na_2C_2O_4 + 2CO_2$$

Sodium ferric oxalate occurs in fairly large green crystals, which are perfectly stable in the dark, and are easily soluble in water (about one in two), and when spread on paper it gives a yellowish-green film.

As damp is necessary for the full development of the image, it is necessary to expose it to aqueous vapor before printing; otherwise the printing is precisely the same as for any other of the platinotype papers. The best way of damping the paper is to fill a developing dish with warm water, and just hold the paper for about three minutes in summer and one-and-a-half minutes in winter, film face downward over the same. It is frequently recommended to breathe on the paper while it is in the printing-frame; but this is hardly to be commended, for the simple reason that part of the paper near the middle of the frame, as a rule, gets less moisture, and therefore shows fainter in the finished print; further than that, the negative, unless covered with a piece of plain paper, also becomes moist and absorbs some of the platinum or iron salts, and thus stains are caused which are extremely difficult to eradicate.

For this process there is no doubt that Rives or Saxe papers are the best, though Whatman's or Creswick papers may be used.

The sensitizing salts should be made up into the form of stock solutions. The sodium ferric oxalate solution should be made by dissolving, by the aid of a gentle heat, 240 grains in 1 ounce of distilled water, and the solution filtered and labelled "the iron solution."

The chloro-platinite of potash may be dissolved in the proportion of 1 : 6, or a 15-grain tube in 90 minims of distilled water.

Besides these will be required a 10 per cent. solution of sodio-chloride of platinum, which is added to the sensitizing solution to give brilliancy or greater contrast, and is especially useful for thin, flat negatives.

A solution of gum arabic must also be used, and 1 ounce of the best white gum arabic in lumps should be dissolved by constant stirring in 2 ounces of distilled water, and then filtered through nainsook, using pressure if necessary.

The sensitizing solution itself is prepared by mixing together, preferably in a flat dish or saucer—

Chloro-platinite Solution .	116 minims.
Iron Solution	120 "
Gum Arabic	116 "

The above quantity is sufficient for 480 square inches of paper. The solution should be brushed over the paper with a broad, flat brush, not too soft, and then the marks evened out with another brush till it has lost all glaze, then quickly dried, and the process of drying should not take

more than half an hour. Great care should be exercised in the choice of the brushes. A soft camel's hair brush will mop up too much solution, while a hard brush is apt to cause marks in the sensitizing.

Sepia-toned pictures may be obtained by the addition of palladium or mercury salts to the sensitizers, but the results obtained by these are by no means satisfactory, nor is there any good method of obtaining sepia tones direct by this process.

Mercury gives, as a rule, yellowish-whites, and the tones are not even—that is to say, the high-lights may be sepia, the half-tones gray, and the shadows black. With palladium the difficulty is to keep the paper, and it must be printed out dry and then developed, or else variations in tone and general reduction may ensue.

A formula strongly recommended by Watzek for the mercurial paper is:

Sodium Ferric Oxalate Solution	168 minims.
Potassium Chloro-platinite Solution	100 "
Potassium Chlorate Solution .	4 drops.
Mercuric Chloride Solution .	84 minims.

All these solutions should be saturated. It will be found necessary, if this be used, to give the raw paper at least two coatings of plain 2 per cent. arrowroot size; but it is preferable to use the gum arabic solution in about the same proportion as suggested for the black paper, and also to replace the chlorate of potash by a like quantity of sodio-chloride of platinum, which keeps the whites purer.

For the palladium paper the following may be used:

Iron Solution	120 minims.
Chloro-platinite Solution .	80 "
Potassio-chloride of Palladium Solution (1 : 8) . . .	20 "
Gum Arabic Solution . .	116 "

It must not be forgotten that this paper must be absolutely dry during printing, and only developed by steam afterward.

The subsequent treatment of these prints is precisely the same as for ordinary platinotypes, namely, the use of the three acid-clearing baths, and then well washing, and they are also amenable to the process of uranium toning or the toning process lately suggested by Mr. A. Peebles Smith.

The process is not a difficult one to work, nor is it difficult to prepare the paper one's self, the chief difficulty lying in the drying.—*The British Journal of Photography.*

SUNLIGHT AND SHADOW.

UNDER this inviting title the Baker & Taylor Co., of this city, has just issued one of the most beautifully illustrated books of the year. The work comprises a progressively arranged series of fourteen chapters dealing with photography indoors and out, and is embellished with a hundred half-tone engravings. In his preface, the editor, Mr. W. I. Lincoln Adams, explains that the book is intended to aid the more advanced photographer by precept and example, and it would be difficult to imagine a more delightful introduction to pictorial photography.

Chapter I. deals with "The Choice of Subject," and is contributed by Mr. Xanthus Smith. It is illustrated with pictures by A. L. Eidemiller, H. P. Robinson, and A. Horsley Hinton. Mr. Adams follows this with a chapter on "Landscapes Without Figures," making his subject attractive with examples of landscape work by W. H. Dodge, H. Troth, Dr. J. Meiner, Alfred Stieglitz, and other amateurs of note. The frontispiece of the book "In Prospect Park," by the editor, is a charming piece of work and conveys many lessons for the outdoor worker.

Chapter III. deals with "Landscapes with Figures," giving the experience of the editor and Mr. Andrew Pringle in this difficult work. The illustrations represent the work of Alfred Stieglitz, Seymour Conway, Count von Gloeden, and Jesse Poundstone.

"Foregrounds," forming Chapter IV., is from the pen of Mr. H. P. Robinson, and is written in the veteran's usual illuminating way. It is one of the best chapters in the book, and contains a number of illustrations chosen by Mr Robinson to elucidate the text. The full-page picture,

By J. Wells Champney.

PORTRAIT STUDIES.

"A Wet Day on the Boulevard," by A. Stieglitz, accompanying this chapter, is perhaps the happiest effort of this well-known amateur. In Chapter V. Mr. Robinson treats of the "Sky" as the keynote of pictorial work outdoors. Although he begins by criticising somewhat severely American landscape photography, Mr. Robinson conveys many lessons which are needed, and the chapter is one which ambitious picturemakers will do well to read and re-read.

Mr. John Bartlett contributes the sixth chapter of the book, with "Outdoor Portraits and Groups." Those who are familiar with Mr. Bartlett's writings need not be told that this a subject with which he is peculiarly fitted to deal. The illustrations are by Mabel Osgood Wright, Alex. Keighley, R. Eickemeyer, Jr., H. K. Noyes, and Alfred Stieglitz.

"The Hand Camera" is reached in Chapter VII., and gives the experience of Mr. Alfred Stieglitz. The illustrations, of great beauty and attractiveness, are contributed by the writer of the chapter and deserve special attention as object-lessons in hand-camera work.

Chapter VIII. most appropriately touches upon "Instantaneous Photography," and is from the facile pen of Mr. Walter E. Woodbury, the editor of the *Photographic Times*. The exposure tables for objects in motion, included in this chapter, will prove of great service to those attempting this difficult branch of photography.

"Winter Photography," by Mr. Adams, instructively fills Chapter IX. It is illustrated with nine excellent examples of snow and ice photography, one of which we reproduce here by permission.

"Marines" is the heading of Chapter

By W. I. Lincoln Adams.

UNDER THE WILLOWS.

X., and the subject is treated very fully by Mr. H. P. Robinson and Dr. J. M. Bemis, who each contribute several examples of marine work worthy of study. The tail-piece of this chapter, "The Sea," by Harry Platt, is one of the most masterly pieces of photography in the book.

In Chapter XI., Mr. W. A. Fraser, whose views of New York by night have recently attracted so much attention at the exhibitions, gives his method of working when photographing outdoors, after dark, in all sorts of weather. This is, we believe, the only exposition of the subject so far published. It is illustrated with a half-dozen night pictures by the author.

Professional photographers will doubtless be attracted by Chapter XII., in which the artist, Mr. J. Wells Champney, gives his method of portraiture as followed in a painter's studio. Mr. Champney writes clearly of his subject, and his remarks will help many to a better understanding of "Lighting in Portraiture." We give herewith one of the illustrations of this chapter. The arrangement and lighting are explained by a diagram to be found in the book.

The thirteenth chapter, on "Photographing Children," by Mr. Walter E. Woodbury, gives a number of children's pictures by B. J. Falk, of this city. One of these, entitled "Child Study," should be seen by all interested in the subject. It is admirable in pose, lighting, and composition. The tail-piece of the chapter is a delightful bit of work from the studio of Mr. F. Boissonnas, of Geneva.

"Art in Grouping," by Dr. Hemingway, constitutes the concluding chapter of the book. It is largely illustrated with examples selected from paintings by the old masters. These are analyzed and their construction shown for the guidance of the photographer.

The work is printed on heavy coated paper, and bound in art canvas, with gilt edges. Its contents and arrangement do honor to the taste and judgment of the editor. We commend it to our readers as an admirable gift book for the holidays, calculated to give pleasure to anyone interested in photography, from the novice to the veteran in professional work. The price, we believe, is $2.50, postage paid, and we are informed that the photographic trade can be supplied by The Scovill & Adams Co. of New York. It deserves a large sale.

FRAMES.

THE frame of a picture—be it photograph or otherwise—says W. J. Warren, in the *Amateur Photographer*, should be as the accompaniment to a song—harmonious, unobtrusive, yet helpful and sympathetic, and part of the whole composition. The fact that exhibits at the Royal Academy must be framed in gilt, and further, that paintings, and especially those in oil, from their brilliancy of color and solidity of surface, will allow and demand a solid and brilliant frame, has rendered this style almost a necessity. With photographs, however, it is different. Time was when an Oxford frame and huge white mount were the orthodox method. The exhibition rules have put their veto on that; later the photographer hesitated to demean himself as to how his work should be framed, but left it entirely in the hands of the maker to do his best—or worst; and it was generally the latter. Now, indeed, amateurs are running to the opposite extreme, and sections of some exhibitions might be classed under "curiosities of freak framing." But still, as is generally the case, good will arise out of such extremes, and there are few who will deny that it has already commenced to show itself.

The decision with regard to gelatino-

chloride prints is generally the most difficult to come to. It is only in the most extreme cases that they will stand framing close up, and then, I venture to think, the glossy surfaced ones are best in dull gilt, with the grain of the oak wood showing through, and their surface, at the most, relieved with a simple reeding. Matt-surfaced prints may be treated in the majority of cases, if a close-up frame is decided on, in the same way as carbon and platinotype.

In all cases of small pictures—both P. O. P. and platinotype—a mount is wonderfully helpful, because it does away with the necessity of screwing up the vision so as to confine it to the subject and obtain nothing of the surroundings. Besides this the suitable use of a mount is a power in our hands in influencing the appearance of our print; if the mount be darker the high lights are emphasized, whilst, on the contrary, a light print is reduced in contrast by a white mount. Recently brown-paper mounts have become quite a rage, and there is no gainsaying that, provided the tone is well-chosen, they are distinctly effective. If each piece of smooth, dead surfaced brown paper which comes into the house is annexed by the amateur he will soon have a sufficient stock to make experiments with. They may be varied in tint by using water-color paints and a mop-brush.

We are told that plate-sunk mounts are immoral, because they are a pretence that the picture has been produced by a copper or other metal plate impressed so as to leave its marginal marks upon the paper, but personally I must confess to their attractiveness, and I shall endeavor later to suggest a dodge that will absolve us from that awful accusation!

Tasteful frames may be made by covering white wood with either Japanese paper, or silk, or other material; but except in the case of the very largest sizes the pattern on the fabric threatens to be obtrusive, and should be carefully watched. These again may be toned or quietened down by an application of paint or dye, or they may be dull silver or gilt.

Cold-toned platinotypes are especially suited by black reeded frames with a silver slip within. German gilt frames are really silver gilt with a yellow varnish over, and if we remove the latter with an application of spirit we soon have just what we want. (This is a trade secret!)

Close-up wood frames are probably the most popular to-day. They may be made of canary wood and stained an appropriate color, green-brown or black, or better still of American walnut. If this style is decided on, one's tame picture framemaker should be asked to obtain a few lengths of the desired pattern, and later I have included some suggestions with regard to this. Gesso-treated frames with detail in low relief have been adopted in some cases, but they are very dangerous and ticklish—dangerous because there is a risk of rivalry between picture and border; ticklish because it is nasty, sticky stuff. Later I have included a recipe for making it, and I sincerely wish the adventurous luck. May they never be bird-limed into helplessness!

PRACTICE.

First, as to those plate-sunk mounts and the possibility of escaping anathema. If the edges of the negative are masked with a strip of lantern-slide strip, or non-actinic paper placed on the film side, and if the printing paper is cut so as to overlap these marks about one-sixteenth of an inch on each side, the result will be a narrow white line all around, which, to my mind, distinctly adds to the appearance of the print if it be mounted on a dark mount. The strip may, of course, be reduced, but the size I have suggested is the most useful. It serves all the purposes of a plate-sunk white margin, or of a cut mount, and it is simple and costless.

Then as to staining wood frames. If these are made of white wood, oak, or American walnut, the same suggestions apply. If a clear green or brown is required nothing can beat Steven's water stain. The wood may be first sized, and the process should be repeated if the frame is to be subsequently varnished, but I do not suggest this course as necessary, or even advisable. Experiments should be made as to the exact tone, either on a piece of similar wood, or on the back of the frame itself. The green and the brown may be suitably blended if the former is too brilliant.

A wonderful range of tones may be obtained on light oak by rubbing in a mixture of household Brunswick-black and a little Prussian-blue oil color, the whole being let down to the required consistency with turpentine; but there must be plenty of muscular exercise in the rubbing in, and at least twenty-four hours must be given for drying. The range extends from brown, either deep or light, to an absolute black with gray variations.

Another staining medium, especially suitable to American walnut, is a mixture of drop black and oil—the tone varying in proportion to the quantity of the former added. It should be applied thickly and evenly with a rag dabber, and then well rubbed in with an old kid glove and polished off with crumpled paper. By this means a rich toned semi-dull surface will be obtained that is specially appropriate with the brown-toned platinotypes and carbons we are so much affecting nowadays.

If the frame is to be covered with Japanese paper the latter should be thickly coated with glue—nothing else will hold it—and this should be repeated again and again until it becomes tractable and will stick in the position it is bent into.

Gesso frames depend for their success more on the individual knack and taste of the producer than on any directions I can give here. The composition itself is made by dissolving glue in water and then adding whiting and boiled linseed oil in equal proportions, and adding about one-eighth of resin as the mixture boils. It is used hot and placed in position with a brush or stick. Frames by this process may be suitable in seascape subjects. The lower corners can have a suggestion of kindred subjects, and the composition of the picture itself may be materially helped; but care should be taken to avoid formality either in detail or in position.

Sometimes a few actual objects may be worked in and covered with thin gesso solution—shells, or reeds, or grasses.

In order that these frames should fulfil the purpose which I defined when I commenced this article, there must be the greatest precaution used against noisy color or detail, garishness or vulgarity, and that is why I suggest in all cases that they be subsequently toned to a uniform sombre tint. Otherwise the frame will compete with the picture—"which is absurd," as we learnt at school.

"YOU TURN A HANDLE, THE FILM DOES THE REST," is the catch phrase used by an English advertiser of transparent film for animated photography.

PLATINOTYPES were more numerous than prints by all other processes at the recent exhibition of the Royal Photographic Society. Carbon prints came next in favor.

ALUMINUM PROCESS BLOCKS. In a late number of *Aluminum* an engraving was given as printed from an aluminum halftone block. It is claimed that aluminum is especially adapted for photomechanical work, because the metal takes the ink well, prints well, is incorrodible, and is more economical than copper. The etching solution was not given.

OUR PICTURES.

THE balance of interest in our illustrations this month is fairly evenly divided for amateur and professional readers. To be sure, there are rigid professionals who would fain have the whole MAGAZINE, and every issue thereof, devoted exclusively to the bread-and-butter end of photography. These, however, may console themselves with the reflection that all the subjects gathered into our pages may, as opportunity occurs, be focussed with profit on the professional ground-glass.

James Landy, Cincinnati.

OTHELLO.

We are glad to see that the number of professionals giving part of their time to photographic work outside of but intimately related to portraiture is rapidly increasing. To this class our frontispiece, "The Village Carpenter," by Mr. George E. Tingley, of Mystic, Conn., will appeal with special interest. Mr. Tingley is a professional worker who, like many others, finds relaxation and profit in getting away from the daily round of pure portraiture into a higher reach of photography, viz.: the representation of characteristic types. "The Village Carpenter" is a capital piece of work of this kind, carefully conceived, and carried out with the simplicity and concentration so essential to the successful treatment of such subjects. We are sure that it will be appreciated wherever it goes, and serve as a forcible reminder to seekers after pictorial material of a vast field as yet comparatively neglected—the securing of pictures of the many quaint human types which are passing from actualities to mere memories under the pressure of modern methods of work and business. The prints are on Rough Carbon Velox paper, recently introduced by the Nepera Chemical Co., of Nepera Park, N. Y., and afford another opportunity of measuring the capabilities of this new paper for artistic portraiture, composition work for publication, and other uses.

To many of our Eastern readers the inset of Mr. Thors' pictures will come with the charm which accompanies the opening of a new book. The Thors Studio is one possessing a high reputation on the Pacific coast, and we are pleased to be the first to present his work to a wider appreciation.

"A Day in June" comes from a landscape photographer of rare gifts, Mr. Alfred Clements, of Philadelphia. The pictures of this worker are so worthy of imitation and study, and offer so clear an exposition of the pictorial possibilities of photography that one regrets that so few are accessible. Not that we advocate the servile reproduction of Mr. Clements' work, but the following of the pictorial principles evident in "A Day in June" and others of his pictures.

It is a long time since the fraternity has seen anything from Mr. Jas. Landy, of Cincinnati, famous in past years by the grand work shown at the conventions. The portrayal of "Othello," which is engraved herewith, shows us that our friend has not lost his skill in character portraiture. Studying this figure, the intensity of the pose, the suppressed excitement in the hands and arms, the impatient rage expressed in the face and eyes, one almost seems to be present at that meeting of the Moor with Iago where the latter offers to prove the infidelity of Desdemona. The picture is selected from a number kindly sent us for reproduction in *Mosaics*, 1898, and was engraved by the Williamson-Haffner Eng. Co., of Denver, Colo., who are to be complimented on the excellence of the reproduction.

"Watching the Circus Pass" suggests a happy grouping for three little ones who might otherwise prove difficult to handle. It is from an English studio, that of Mr. Herbert E. Watkin, of Scarborough, whose work we have already noticed in these pages. The engraving was made by Mr. H. J. Lloyd, a self-taught engraver-photographer, of Wyalusing, Pa., much of whose work in this direction has appeared in previous numbers of the MAGAZINE.

E. E. Seavy. New Castle, Pa.

A WILLING MODEL.

Not very long ago a visiting photographer complained of the difficulty of ob-

taining a pleasing picture of girls from eight to twenty years of age—on account of the natural awkwardness of figure and demeanor in girls between these years. We have engraved a picture recently received from Mr. E. E. Seavy, of New Castle, Pa., which seems to show at least one way of overcoming this difficulty, met with chiefly in pictures where the full figure is to be included.

Herbert E. Watkin, Scarborough, Eng.

WATCHING THE CIRCUS PASS.

THE PHOTOGRAPHIC LENS.

BY THOS. R. DALLMEYER, F.R.A.S.

THE value of illustrations to give a general idea of instruments is great, and if the illustrations be accurately drawn to scale, of course they will be of still greater value to a buyer. In most optical instruments, however, something more than the exterior appearance of an instrument is requisite, and further, as year by year we seem to have a more and more initiated public, the more necessary does it become that we should assist by every means in our power, in furnishing the fullest information for intending purchasers. I, therefore, hope that the suggestion for the necessity of accuracy in technical descriptions may be followed by others who are devoting particular attention to one branch or another of the optical trade. With regard to the photographic lens nearly as much as is possible has been done in this direction, but having thought of one or two useful additions, I have deemed it worth while to mention them. The utility of one was suggested by a letter from a secretary of a provincial camera club, in which he asked what was the meaning of a lens being described as a particular *dimension of plate* given in connection with the type of lens—*e.g.*, what does an 8½ x 6½ rapid rectilinear mean? the point of the question

being what was the full meaning of 8½ x 6½. With the particulars as set forth in opticians' catalogues, at present only one addition is necessary to fully explain the meaning, and that is that the full diagonal of the circle of illumination covered by the lens should be also furnished. Some types of lenses will only cover very little more than the size of plate for which they are advertised, while other forms will at any rate illuminate, and if well stopped down, cover much larger plates. In addition to furnishing the linear dimension of the circle of illumination covered, it is only necessary to tabulate and remember the linear dimension of the diagonal of any and every current size of plate.

Diagonal of	3¼ x 3¼	=	4.58 ins.	or under	4¾	ins.
"	4¼ x 3¼	=	5.30 "	"	5½	"
"	5 x 4	=	6 4 "	"	6½	"
"	6½ x 4¾	=	8.06 "	"	8¼	"
"	8½ x 6½	=	10.67 "	"	10¾	"
"	10 x 8	=	12 80 "	"	13	"
"	12 x 10	=	15.62 "	"	15¾	"

Now take for example a lens advertised to cover a 5 x 4 plate; if the minimum linear dimension of the diagonal covered by the lens is greater than that of the diagonal of any larger size of plate, it is understood at once that the lens will cover this larger plate if sufficiently stopped down. Further, there is conveyed by this information an approximate idea of how much the sliding front may be moved (without cutting off the corners) either up or down, or sideways, when working on a particular plate. It can always be moved right and left (or up and down) from the centre *at least* half the difference between the diagonal of the full circle covered by the lens, and the diagonal of the plate employed. If it is found that the covering powers of the full diagonal of the lens in question, only just correspond with the diagonal of the plate, it is evident that it will be unsafe to use such a lens other than in a central position as regards the plate. It may frequently occur that a photographer may wish to employ a lens of a certain focus upon a given size of plate, but he finds on looking through a catalogue that there is no lens, as advertised, distinctly in accord with his requirements. Of course he knows that if the lens of the requisite focus covers a *larger* plate than that for which he intends to employ it, it will cover the smaller plate, and in that respect the present technical description of the lens is sufficient. Now, if the optician furnished the information suggested, noting that a lens constructed for, say, an 8½ x 6½ plate, diagonal of which, 10¾ inches, would cover a circle of illumination linear dimension 16 inches, the photographer can see at once that this linear dimension is greater than the diagonal of a 12 x 10 plate, and hence he knows that by stopping the lens down he is in possession of an instrument that will, if occasion occurs, cover a plate so much larger, and that on using this lens on its own plate there is considerable latitude for movement of the sliding front; it may be moved *at least* 2½ inches longitudinally or vertically from the central position.

A short time ago there appeared in the *Photographic News* a somewhat similar suggestion from Dr. Vogel, viz., that opticians should express the covering power, or the linear dimensions of the circle of illumination included in terms of the equivalent focus. This, of course, furnishes the same information as that suggested, although I have offered it in a rather more practical form.

The diagonals of current plates would be very shortly as familiar as the dimensions of the current plates themselves, and the column indicative of the linear dimensions of the circle of illumination covered would then prove a very useful addition for the purpose suggested.

To give a proper technical description then, of a photographic lens, it is neces-

sary to furnish the following information accurately:

I. General information on the type of lens which should include (*a*) The form and number of combinations, and the manner of mounting—illustrations here are useful. (*b*) The intensity of the full working aperture of the series. (*c*) The approximate angle included by the series on the longer side of the plate. (*d*) The concise explanation of the system of diaphragms employed, so that when the exposure for one given stop in a certain light is found, the relative exposure for any stop is known.

II. Then for each individual lens should be tabulated: (1.) The size of the plate the lens is constructed to cover. (2.) The focus for parallel rays. (In the case of portrait lenses, I still am of opinion that a column devoted to back-focus is a useful addition, as it gives a photographer some definite idea of the shortest length necessary for a camera when a portion is built of solid form.) (3.) The full available aperture that determines the intensity of the lenses employed. (4.) The diagonal of the full circle of illumination of the lens, or the guide to the largest plate the lens can cover. (5.) The dimensions of the flange that must be employed in order that the photographer may know in selecting it whether it can be employed on the present front of his camera.—*The Optician.*

METHODS AND FORMULÆ.

To make metal trays perfectly safe for photographic or chemical manipulation, they should be treated as follows: First, give the tray, inside and outside, a coating of best boiled oil, next a coating of asphalt varnish paint carefully and evenly applied, rather thick; and, finally, after the lapse of a few weeks, if possible, a coating of graphite paint, containing neither benzine, turpentine, nor "dryers."

Unequal toning of collodion prints. This defect is generally due to the horny condition of the collodion surface, and may be remedied by immersing the prints, previous to toning, in a bath of equal parts of wood alcohol and water. The film contracts with age, and the diluted alcohol opens the pores of the paper and allows the toning to proceed evenly. This hint comes from the *Wochenblatt.*

Opaque coating for glass To produce a smoked glass surface for sketching upon, hold the glass plate over a piece of burning camphor. If the glass has been previously rubbed over with a piece of beeswax, the coating of black deposit will adhere more firmly.

Gottheil's one solution developer for bromide prints is composed as follows:

Sulphite of Soda (crystals)	8 ounces.
Carbonate of Soda	3 "
Distilled Water	80 "
Eikonogen	1 ounce.

A practical demonstration of the influence of the surroundings upon the tone of a picture may be had by placing three squares of gray paper, each of the same tint and intensity, upon black, gray, and white mounts.

Ferrous oxalate for lantern slides.

A.

Potassium Oxalate	1 pound.
Warm Water	64 ounces.
Ammonium Bromide	20 grains.

B.

Ferrous Sulphate	1 pound.
Warm Water	48 ounces.
Sulphuric Acid	1 drachm.

Filter each solution; for use take 1 ounce of *B* and add to 6 ounces of *A*. Never add *A* to *B*.

Alfred Clements. *Philadelphia.*

A DAY IN JUNE.

LATITUDE OF THE PLATE.

THE question of latitude in a plate is one of far more importance than the average student of photography thinks; we often hear some of the better informed photographers remark that the quality of a wet-plate negative has never been surpassed by that of the modern dry-plate. A few enthusiastic dry-plate workers who have never worked the wet-plate process often say that there is greater softness and delicacy about a dry-plate negative than there is in a wet-plate one. They even go so far as to say that the quality of negative produced by a rapid plate is better than that by a slow one; and there are some dry-plate workers who are even so ignorant as to say that such and such a plate is as "hard as nails" and lacking in gradation. Those who know better smile at the utter falseness of these statements, which are based upon pure ignorance. No plate is hard; our most delicate transparencies and negatives are often made upon plates having the highest development factor. These few remarks may seem somewhat of a digression from the subject of this article, but the question of the development factor in a plate is more closely bound with that of latitude than at first sight seems apparent. Theoretically, the question might be asked, even of a very experienced scientific photographer, whether a slow plate had more latitude than a quick one, and he would hesitate from a theoretical point of view before answering this question; from a practical one, however, there would be no hesitation in the answer, because within certain limits a certain development factor is necessary for proper printing value, and the slow plate has the enormous advantage of giving this printing density with a minimum of development, and in consequence less actual depth of action in the film by the developer before that printing density is produced. I was led to pen these few lines, owing to the immense surprise, to say nothing of the instruction, I received from examining some negatives taken by Mr. Vero C. Driffield, of Hurter & Driffield fame.

Mr. Driffield put into my hands a plate with two negatives upon it; he also handed me two prints from these same negatives, and asked me what had taken place. Now, while professing to know a thing or two about negatives, I looked upon those he had handed to me with very grave doubts in my mind as to how they had been produced, and it needed his explanation to make me understand what he had done. These two negatives being taken on the one plate were developed together for the same time; consequently the developing factor (as those who have had anything to do with the H. & D. system will understand) was the same for both negatives. One negative seemed a perfect one both in exposure and density; but the other looked so dense that it could be scarcely seen through. Indeed, it looked a perfectly useless negative to the untrained eye, and yet the development factor, as we said before, was the same in both negatives, the result being that the prints from each negative were identical in every respect as far as the most critical observation of the eye could discern. Mr. Driffield then explained to me that one negative had received one second exposure and the other one fifty seconds' exposure, and yet gave identical prints in every respect, the only difference in the working of these two negatives being that one required an enormous time for printing. Within the period of correct exposure the opacity is proportional to the exposure—it is neces-

sary here to say that by opacity we do not mean density or deposit of silver, which Messrs. Hurter & Driffield say is proportional to the logarithm of the exposure—consequently, one negative had fifty times the opacity of the other, having had fifty times the exposure. Now, what did this mean? It meant that with the exception of a lengthened time of printing, it was perfectly immaterial whether that plate had one second or fifty seconds' exposure, and this we must understand without any alteration of the developer or time of development, both negatives having been developed exactly for the same time.

Here was a state of things that seemed simply astounding; but upon making a speed curve of this plate the surprise was met by a very simple explanation, which was merely this, that for the developing factor given, the straight line portion of the curve, or correct period of exposure, was so long and embraced such a wide difference of opacity that the limits we could obtain on an "ordinary" print, say roughly within one to thirty, could be made with such a plate fifty times over. Of course, it is well recognized now that enormous differences can be made in a plate by altering the developer, but the widest limits in practice may be fairly said to be embraced within six to one, and yet we are face to face here with the differences obtained merely by the latitude of a plate of fifty to one. Now, needless to say, this plate was an extremely slow plate, such as would be used for photo-mechanical purposes, well coated and very slow. As we advance in speed we find the practical latitude of the plate fall enormously, until at last, by increasing the speed, we find, within the limits of the range that any printing paper will give, we have no latitude left at all; and the plate must have exact exposure if we are to get a good negative. Now why is this? There is one point which bears very forcibly upon this matter: some time ago in trying to ascertain the effects of time of development upon a plate (especially using a rapid one), I found that in giving one minute of development I obtained with this rapid plate from five to six points within the so-called period of correct exposure. Upon increasing the time of development with the same developer, two, three, four, and five times, there was a corresponding reduction in the number of points within which the straight line of the curve could be kept, and this of course was easy to understand.

In a rapid plate we are obliged to develop for a certain time in order to get sufficient density, or rather we should say *opacity*, of image in order to yield a good print. Now rapid plates for the same developer and time of development have very much less powers of giving opacity, consequently, we are obliged, as it were, to force development for such a time that the action of the developer goes right through the film, with the result that there is not sufficient silver to act upon in order to keep up the regular density factor, giving arithmetical deposits of silver with a geometrical progression of time of exposure. Now with a slow plate with the same developer we reach this printing density when the developer has acted for a very short time on the film, simply because the deposit on a film of fine grain is very much more opaque than that produced on a film with a coarse grain, and it is this ease of getting density on the slow plates which allows us to practically stop development long before it has reached the same depth of film that would be necessary in the case of a quicker plate. It is really wonderful to note the fall in opacity-giving power as the plate is made more and more rapid.

We cannot say that theoretically the latitude is greater in one plate than the other, provided that opacity of image be not taken into account; but for a given opacity the

latitude is enormously different in comparison between the slow plate and the quick one. This, therefore, gives us a far greater latitude, to say nothing of better quality, in the slow plate than we have in the fast one. In every case where the term hardness is applied to a negative it simply means that the developing factor is too high, and no matter however great the opacity-giving powers of a plate may be, this opacity may be made as soft and delicate as we wish by stopping development or modifying the developer, and therefore, considering the fineness of grain in the slow plate, we have the power of making pictures of the greatest delicacy as well as the greatest opacity, whichever we may desire to do. It is not to our interest to decry the value of quick plates; indeed, we, as the pioneers of speed, have no interest in saying a word against fast plates, but we wish to speak justly and give each kind of plate the merits as well as the demerits it deserves. Therefore, where we want great latitude and fine quality, the slow plate is unquestionably the better one; the question of gradation has nothing to do with the matter at all, provided that we expose the quick plate with the right exposure, and give it the proper development in order to obtain printing density, we shall get a result in actual gradation not inferior to that possessed by the slower plate; but exactness in exposure becomes of great moment in the case of the quicker plate, for we have less latitude, and, therefore, for quick work we require shutters and exposure meters which may be adjusted with absolute exactness.

The advantages of high speed are so great in practice that the constant aim of the platemaker must be to produce the greatest possible density-giving powers in a plate combined with speed. This has always been our strenuous endeavor, and one in which we certainly have been successful. At the same time the fact still remains that without alteration of development a very slow photo-mechanical plate can be made having quite easily a range of fifty to one, whereas some of the very highest speeds we have obtained will only give a latitude of one to one and a quarter, and by still further increasing the speed we may even make the range of the negative less, in striving for a given printing density, than the range obtained upon the print. As soon as the range of a plate equals that of the print, latitude is nought; and if we fall below this it is impossible to give a correct rendering of any subject embracing the total range of printing papers. I can assure my readers that already some rapid plates in the market have fallen below this range, and it means that such plates possess no latitude whatever, and are even incapable of representing the range obtained in printing papers. The platemaker must never let his plate fall below this point, and even if he approach it the difficulty of getting a good negative is far greater for want of that valuable latitude. So important do I consider the consideration of this question that I would urge the photographic student to seriously consider it.—*J. C. in Dry Plates.*

To render corks vapor-tight, as when ether or ammonia is to be stored in bottles, dip the corked bottles (twice if required) in the following preparation:

Soft gelatine or Good Glue . .	3 parts.
Water	9 "
Glycerine	2 "

Melt the gelatine in the water and then stir in the glycerine. When ether is so stored about one-tenth of the bottle should be left empty, to allow for expansion of the ether vapor.

Under-exposed plates, says A. L. Henderson, may often be remedied in development by the use of amidol following the usual development with pyro.

CURIOSITIES OF PHOTOGRAPHIC LITERATURE.[1]

BY D. A. N.

It is now over a century since Isaac Disraeli published the first volume of *Literary Curiosities.* Were he alive to-day what a field he would have in things pertaining to photography! Perhaps (?) his satire would bring about a change much needed among our writers on photo work. The drivel of the craft periodicals is positively nauseating; there is a lamentable dearth of good writers among the fraternity; there are quite a number who write and say nothing; again, there are others who write little else but "developing-room yarns," which develop nothing but "fog." Young men seem afraid to give utterance to their thoughts, and the older ones hasten to foist advice and recapitulate failures. Doubtless many of these writers do not mean to become sarcastic and tantalizing, yet they are so, nevertheless; they steer pretty close to the proverb—"in laboring to be concise they become obscure." Example I.:

Negative Varnish.—Dissolve eight parts of borax and two parts of carbonate of soda in hot water, and dissolve, etc.

The quantity of hot water makes no difference, presumably. If the formulist knew, he concluded to keep it to himself; he was akin, I ween, to the man who wanted the platemakers to pack plates in pairs, because in taking his plates out of the original wrappers he let a dozen fall and break; hence, if they had been packed in twos he would only take out two at a time, and thus be prevented in future from smashing a dozen at a pop—and photo journals be deprived of a writer. Not long ago a California paper contained a notice similar to this (the exact phraseology I have forgotten):

Have your house or store photographed. Taken at any time in town or country. Price, etc.

This is delightful! The transition from town house to country, or *vice versa*, in order to be photographed, is entrancing, if not herculean. Notice that the advertiser is ready for business day or night—at *any* time, he says. It is just possible this is the same man who advertised in a Western journal thus:

Wanted.—Position as A1 operator and poser in a strictly first-class studio. Can retouch, print, and finish. Two years' experience.

What in the world is this artist, with such an extensive experience, doing in the "wild and woolly West?" I know of men who are considered really good members of the craft, and have been *twenty-two* years in the business, who cannot do as much as this man has mastered in two years, and they are not Philadelphians, either.

Not long ago a photographer *discovered* that the sun was losing its "grip" as a light-giving source, and hastened to tell the world about it, when some one suggested that he clean his lens, skylight, etc.—hence, the sun resumed his old luminosity; it was a curious literary effort.

One inventor in France, one in England, two in the United States, and numbers in Germany, have promulgated color-photography—in the journals of the craft; the scheme has had "high" indorsement, and been provocative of interesting literature of the *bric-a-brac* order, curious alike in its absurdity and voluminosity. The same remarks apply to orthochromatic (or isochromatic) photography; where the learned pundits disagree, who shall decide? Verily, a little *photographic* knowledge is a dangerous thing, when aired in print. Among the *curios* in my scrap-book I find no less

[1] Written for Mosaics, 1898, but received too late for insertion.

than twenty-seven ways to clean a lens, ranging from an old linen rag to paper—yet each one has the support of the author's experience, and the condemnation of the other methods; enough to choose from.

The purchaser in a stock-house did not care what sort of a diaphragm his lens was supplied with as long as it was an "Irish" one. A Chicago paper not long ago contained an advertisement for "Two dozen photographic dry-plates that have never been used for architecture," etc.—a little ambiguous, but well meant. Is it not appalling to read the zeal with which writers set forth the merits (?) of developing formulæ; the old war-horse of the profession will have nothing but pyro, while the latter-day experimentalists pounce upon you with metol, rodinal, glycin, amidol, etc., in bewildering phraseology which, after trying in vain to eliminate the chaff from the grain, you give up in disgust because of the inadequateness of the formula and your lack of time to experiment. Perhaps some reader will doubt the truth of this assertion; if so, let him read any three photographic periodicals, and see if the three he selects to peruse will publish the same item, *precisely*, of the same formula. This faulty information is not confined to journals in the United States; even the German craft periodicals are remiss in this respect. Here is an example I came across recently:

To tell whether a negative is thoroughly fixed, wash it and place it in a solution of iodide of potassium.

The strength of the solution is immaterial—1 per cent. or saturated. Again, a Western craft monthly, replying to the query "How can I *color* gelatine photo prints" says:

You can color any gelatine print by immersing in aniline dye. The strength of the dye or immersion will determine the amount of coloring in the print.

Take purple dye (for instance): how nice! Color is what was wanted—not stain. Curios are even to be found in the editorial paste-pot. This same journal published the following query from a subscriber, and asks one of its readers to supply the desired information:

In making composition pictures, which is the better, to apply the marl or paste on the film side of negative, or use ground glass for applying the paste. The directions sent out with some of the pastes are confusing. I have tried different ways, and would like to know which will give best results.

I did not notice any extended correspondence on this subject; possibly he found out for himself before the "next issue" reached him. Another journal published a very sensibly written article on how to construct a photometer, under the caption "A New Photographer." The end of all these singularly tantalizing literary curiosities among the writers of the craft photographic is not, by any manner of means, near at hand. If there is anything worth repeating to the knight of the camera it should be very plainly and fully told; the omission of one single item is fatal to the whole scheme. Funny as it may appear, the more prominent the writer the more careless he becomes, by taking it for granted that his reader is already acquainted with this or that photographic principle, and therefore it is not necessary to go into details in describing it. Of all the projectors of photographic curios, the apparently scientific worker in the "newest things" pertaining to the art is the worst; he always appears to me as though he wanted to say the whole truth but was a little "skeered" and becomes confused—hence, in his confusion, the trolley of his *thinking* slips the wire, he flounders in the sea of conjecture and drags his poor readers after him. I can hardly tell whether he is to be pitied or censured; he reminds me of some of our convention orators who regale the members on airy nothingness, as it is easier than prating essential practicalities. If you desire some solid amusement during the coming long winter evenings, cull every faulty piece of advice, or

formula, or speech, or experience, published in the photographic press, and you will have learned one important lesson long before spring rolls around, viz., the importance of relying upon your own individual effort, and the eschewment of the curious in photographic literature. Some editors have this yet to learn.

THE JEX BARDWELL HOME.

UNLESS our faith in the American photographer is a vain conceit, Jex Bardwell and his wife will soon have a home of their own to shelter their fading years. The fraternity is awakening at last to an appreciation of this good work, and promises of help—practical help—are coming in every day. More help is needed, and must come, however, before the home can be built. Let us build it quickly—without delay.

The Roll of Honor which we publish here includes some of the biggist hearts in the craft; but there are many more, and we want to publish them here next month. Look at the "Interior View" photographed by a veteran's dream camera here, and send in your contribution, little or big, at once.

AN INTERIOR VIEW.

BY A DREAM CAMERA.

Just a comfortably furnished room, neat, in good taste, without a hint of extravagance. At a table near the centre of the room sits an aged woman, bent and thoughtful, as though she were thinking of something else than the stocking she was darning. She had been a pretty girl once; had passed through the routine of wife, mother, and grandmother; little children had gathered about her knee and been taken up into her lap, and cuddled. Her face was like a benediction. Outside her home she had been a comfort to many; a good friend and a good neighbor. She had been a faithful wife for fifty years, and her husband was the gray-haired man sitting opposite in his comfortable chair enjoying his friendly pipe.

The old man watched the darning-needle as it passed over and under the threads of yarn which formed the warp, and the long pull which drew it into place. He saw a glistening something crawl down over her cheek and fall upon her work, and he said: "Why, mother, what's the matter that you should shed tears? Surely you are not unhappy."

"No, Jex, tears may express joy sometimes; my gratitude to your friends who are showing us kindness in our time of need fills my heart with a gladness I can't describe. The Lord has put it in the hearts of these good friends to come to our rescue in good time. Your help to them years ago has proved as 'bread upon the waters,' which comes back to us in our old age and saves us from — from —."

"Come! Wake up, Ryder! The breakfast is getting cold, it is almost time for church. (I do believe that man would sleep all day)."

"Oh! Man, you spoiled the most delightful dream. I thought it was Christmas morning, and all the photographers in the country had put a house in Jex Bardwell's stocking."

J. F. RYDER,
Cleveland, O.

A Partial List of Contributors to the Jex Bardwell Home Fund.

Gustave Cramer, St. Louis.
C. S. Abbott, Jamestown, N. Y.
Maurice Gennert, New York.
J. A. Brush, Minneapolis.
Ch. Bolwell, Jr., Scranton, Pa.
Carl Ernst & Co., New York.
Edward Cope, Philadelphia.

George Murphy, New York.
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M. A. Seed, St. Louis.
James Inglis, Chicago.
George G. Rockwood, New York.
"Billy" Wood.
Sweet, Wallach & Co., Chicago.
L. M. Prince & Bro., Cincinnati.
R. P. Bellsmith, Cincinnati.
Howland & Chadwick, Los Angeles.
A. B. Stebbins, Canisteo, N. Y.
A. L. Bowersox, Dayton, O.
W. P. Buchanan, Philadelphia.
P. H. Rose, Providence, R. I.
H. Scheron (Schervee ?).
F. W. Guerin, St. Louis.
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F. S. Smedley, Berea, O.
R. Hutchinson, Oregon.
Dozer & McClain, Bucyrus, O.
C. F. Mosser, Greensburg, Pa.
A. L. Ward, Taunton, Mass.
Edward L. Wilson, New York.

Doubtless the other journals, and the various members of the Bardwell Fund Committee have other contributions of which we have no record at the time of this writing. The subjoined circular letter gives the names and addresses of the gentlemen to whom contributions may be sent:

DETROIT, September 25, 1897.

At the recent P. A. of A. Convention, the matter of recognizing the valuable services of old Mr. Jex Bardwell years ago in supplying the evidence necessary to defeat the bromide patents was brought up, a collection was taken and a subscription started to secure him and his invalid wife a home for the remainder of their lives.

As is generally known, Mr. Bardwell gave the desired evidence in his possession without charge, at considerable cost of money and time to himself, thereby saving to the photographic fraternity then and to-day thousands of dollars. For those who have not yet subscribed the opportunity is now presented of contributing toward the discharge of an obligation beyond computation as a matter of justice to one who is entitled to more than he can ever hope to realize.

G. CRAMER, St. Louis, Mo.
ORVILL C. ALLEN, Detroit, Mich.
GEO. STECKEL, Los Angeles, Cal.
J. EDWARD RÖSCH, St. Louis, Mo.
EDWARD L. WILSON, 853 Broadway, N. Y.
C. M. HAYES, Detroit, Mich.
J. F. RYDER, 121 Euclid Av., Cleveland, O.
WM. H. ALLEN,
Committee.

Please help us in this noble cause by sending any amount you desire to give, to the above, or

WM. H. ALLEN, *Treas.*,
247 Jefferson Av., Detroit, Mich.

"PHOTOGRAPHIC MOSAICS, 1898."

AFTER some months of busy preparation, *Mosaics*, 1898, is almost ready for those who want it. The first copies received from the binders, expected November 25th, will be mailed at once to those whose names are on the advance order list. At present this list calls for considerably over two thousand copies. The wholesale orders from the trade at home and abroad next demand attention; after which current orders will be filled as they arrive. It may be said already that the larger part of the edition will be sent out to fill orders as soon as the book is ready, the advance

orders being unusually heavy. Those desiring copies of *Mosaics* will do well, therefore, to send their orders without delay.

Mosaics has been improving every year of late, and the 1898 volume sustains its reputation. The features of the book—its Review, Practical Articles by Practical Workers, and full-page engravings of the best pictures of the year—are too well known by this time to need more than mention. But we may add that the pictures are this year better and more numerous than ever before; the articles more closely restricted to everyday needs and requirements; and the review more condensed and more useful than in some of the earlier volumes.

The point we desire specially to emphasize is that *Mosaics* is, in a peculiar way, the distinctively American year-book of photography. Nine-tenths of the information in its pages concerns photography as it is done in our own country, and is therefore more directly useful to American photographers than the technical information derived from foreign sources. Nine-tenths of the illustrations, also, are pictures made in American studios, and therefore more thoroughly representative of American photography than any general collection can be.

The names of the contributors to "Mosaics" 1898, both as to pictures and articles, include many of the most prominent workers, men who have something to say worth the reading, or whose pictorial work will repay study. Among them we need only mention a few to prove the value of the book. D. Bachrach, Jr., J. F. Ryder, W. H. Sherman, W. M. Hollinger, Dr. John Nicol, J. A. Brush, G. E. Tingley, W. M. Morrison, G. L. Hurd, H. Randall, Ernest Heckroth, W. C. Farrand, M. Herbert Bridle, Xanthus Smith, H. M. Beeles, George B. Sperry, F. B. McCrary, C. Ashleigh Snow, E. K. Hough, T. Perkins, E. E. Seavy, J. Bartlett, E. M. Estabrooke, H. W. Minns, W. B. Swift, Milton B. Punnett, M. Bell, H. C. Stiefel, Pach Bros., Knaffl Bros., F. G. Schumacher, S. H. Parsons, Gilbert & Bacon, A. L. Bowersox, James Landy, W. H. Kuebler, Dozer & McClain, J. Will Kellmer, T. Harrison, Jr., F. M. Somers, J. Ed. Rösch, J. C. Strauss, Spencer Judd, E. B. Core, Alfred Stieglitz, F. A. Place, and a host of others of equal repute. Many of the pictures engraved are from the convention prize exhibits of their makers, and others are selected from the best recent work of the studios from which they come. The new men in the book, as distinguished from the old favorites, make a worthy display and will attract wide attention.

From this brief notice our readers will perceive that *Mosaics*, 1898, is a book which every progressive photographer should have, and as early as possible. The price remains as always: paper covers, postpaid to any address, fifty cents; library edition, strongly bound, one dollar, post free.

THE PHOTOGRAPHERS' ASSOCIATION OF MICHIGAN.

JACKSON, MICH., October 5, 1897.

A SPECIAL meeting of the officers of the Michigan Photographers' Association was called at Detroit on Tuesday, September 28, 1897. The officers present were J. E. Watson, President; A. J. McMichael, First Vice-President; W. L. Smith, Treasurer, and E. S. Tray, Secretary. Ex-President Hayes of the National Association was also present. The meeting was called to order by President Watson, and the following list of prizes, with classes for amateurs and professionals, for the forthcoming Convention was decided upon:

PRIZE LIST.

To photographers outside of Michigan. Special Prize, Class A. For the best portrait, one picture, $20 in gold, first prize; silver medal, second prize.

Class B, Genre. One picture, $20 in gold, first prize; silver medal, second prize.

Classes open to Michigan photographers only. Grand Prize, Class A. Four pictures, ten inches and larger: gold medal, first prize; silver medal, second prize; bronze medal, third prize.

Class B. Twelve pictures, up to ten inches: gold medal, first prize; silver medal, second prize; bronze medal, third prize.

Class C. Twelve pictures, no restriction as to size, from towns of 3000 and under: First, silver medal; second, bronze medal.

Class D. Landscape. Six pictures, any size; one silver medal.

Class E. Marine Views. Six pictures, any size; one silver medal.

Class F. Interiors. Six pictures, any size; one silver medal.

Class G. Commercial Work. Six pictures, any size; one silver medal.

Scientific Photography. Open to all; one picture, one silver medal.

X-Ray Photography. One picture, one silver medal.

Microscopic Photography (Photo-micrography?). One picture, one silver medal.

Genre Class. Two pictures, any size; first, one silver medal; second, bronze medal.

Special Prize, Amateur Photography. Three pictures, not portraits; first prize, gold medal; second prize, silver medal; third prize, bronze medal; fourth prize, diploma. Entry fee, $1.

A. G. McMichael, First Vice-President, Detroit, Mich., will have charge of special classes for photographers outside of Michigan. All correspondence concerning these classes should be addressed to him. W. L. Smith, of Saginaw, Mich., will have charge of the special classes for amateur photographers.

The Third Annual Convention of the Michigan Photographers' Association will be held at Jackson, February, 1898.

E. S. TRAY,
Secretary.

HOW "THE VILLAGE CARPENTER" WAS MADE.

IN answer to our suggestion that the readers of the MAGAZINE would like to hear an account of the making of "The Village Carpenter," which appears as our frontispiece this month, Mr. Geo. E. Tingley very kindly sends the following letter:

The model for "The Village Carpenter" has been a quaint and picturesque figure in our town for many years. For a long time I had been most favorably impressed by his unique character, and desired to pose him. After nursing this desire for a while I spoke to a friend of it, and he told me he believed the old man would be willing.

It was a rainy morning that the old gentleman happened to be standing over the way. Mustering courage, I approached him and asked him if he would be willing to do me a favor. He replied: "Certainly, if it don't cost anything," and followed me to the studio.

Handing him an ordinary chair, such as he must have been most accustomed to, and asking him to be seated, I noticed he continually tipped back in it, and as it seemed most natural, he was allowed to sit in that way during the exposures. In fact, I simply allowed him to take his own positions, and modified them only to help the effect of light and shade. He sat well back from a light that was nearly all top, and it was allowed to fall roughly on the

face as seen in the print, thinking it most fitting to the character. It was necessary to pose the saw so it would photograph as a shadow, rather than a high-light as it appeared (if held to reflect light) as a stiff glaring block of white. A short exposure on a Cramer Crown plate developed with pyro did the rest.

An hour was devoted to him, during which time but four negatives were made. Much of the time was consumed in conversation that made us better acquainted and helped us to more fully understand each other. Much credit is due the model for his untiring willingness in doing what was wanted of him.

Being a strong believer in the naturalistic school, I advocate allowing all original characters perfect freedom in posing. While talking with them watch their every motion and expression, then select such as seem to furnish the best theme for a picture, make only such changes as seem best for proper chiaro-oscuro or linear composition. A farmer will hold his hoe; a shoemaker his last; a smoker his pipe, or a carpenter his saw in a way usually far superior to any arrangement an operator can suggest. If you desire to represent a carpenter *get a carpenter for your model.* Never "fake" up a subject with wig or costume. It looks too much like amateur theatricals, and always gives itself away. "The Village Carpenter" model has been a carpenter for fifty years. GEORGE E. TINGLEY.

Mystic, Conn.

AN INTERNATIONAL PHOTOGRAPHIC EXHIBITION.

As briefly announced in our last number, the Royal Photographic Society in Great Britain has undertaken the organization and conduct of an International Photographic Exhibition, to be held at the Crystal Palace, London, in April and May, 1898. This exhibition is to be more completely representative of the progress of photography from its inception until to-day than any similar event thus far held. To this end the Society invites the co-operation of all photographers, photographic societies, and those who may have in their possession instruments, apparatus, or prints of historical and photographic interest.

We give herewith the preliminary prospectus of the exhibition, outlining its scope, and the various departments into which exhibits are to be classified. We regret that our space does not permit us to present the engraving of the Crystal Palace sent for our use.

The Crystal Palace, located at Sydenham, eight miles from the city of London proper, is perhaps the largest exhibition building in or near the British metropolis. It was built in 1854 as a permanent memorial of the celebrated World's Fair of 1851, and cost about seven million dollars.

The exhibition offers a notable opportunity to American manufacturers of photographic apparatus and specialties, as well as to professional photographers and amateurs, to demonstrate the progress of the art-science on this side of the Atlantic. It will be visited by thousands of people interested in photography from every conceivable standpoint, and we hope that America will be properly represented by the best it can send in every department.

PRELIMINARY PROSPECTUS.

It is proposed to devote the entire nave of the Crystal Palace, together with such other spaces as may be necessary, to an exhibition of "photography and its applications," using the expression in its widest sense. The whole of the arrangements have been placed in the hands of a committee, the names of the members of which have been given, the committee having been nominated as to one-half by the Council of the Royal Photographic Society, as to the other by the members of the trade and profession at a special meeting called for the purpose.

The exhibition will be formally opened on Wednesday, April 27, 1898, and will remain open until Saturday, May 14, following. Every exhibitor will receive a season ticket and a copy of the catalogue.

The various branches and applications of photography render necessary the division of the exhibition into sections, the following being those at present arranged:

I. The history of photography.
II. Pictorial photography.
III. Portraiture and general technical photography.
IV. Apparatus and material (including machinery in motion).
V. Photo-mechanical processes (including machinery in motion).
VI. Scientific applications of photography (including photography with the x-rays).
VII. Photography in colors.
VIII. Photography as a science.

All exhibitors in Sections III., IV., and V., and those exhibitors in the other sections who are not specifically invited by the committee to lend exhibits, will be charged as follows:

In the case of exhibits occupying floor space, one shilling per foot for each square foot occupied or reserved. Minimum charge, one pound.

In the case of exhibits occupying wall or screen space, 6*d.* per foot for each square foot occupied or reserved. Minimum charge, five shillings.

Each exhibitor (except those specially invited to lend objects for exhibition in Sections I., II., VI., VII., and VIII.) will be expected to bear the cost of carriage of his exhibits to and from the exhibition, and of fitting up the space at his disposal, and of providing attendants where necessary; but the committee are prepared to undertake the work for provincial, foreign, and colonial exhibitors by special arrangement.

N. B. The above-named charges will constitute the whole of the liability of the exhibitor toward the expenses of the exhibition.

I. The History of Photography.

This section will comprise early results by the various photographic processes, early and obsolete forms of apparatus, portraits of photographic inventors and discoverers, and other exhibits calculated to display the gradual evolution of modern photography from the earliest discoveries.

It is anticipated that there will be in this section more particularly:

1. As complete a series as possible of the various forms of lenses, with diagrams of their construction and specimens of work done with each.
2. Obsolete or superseded forms of cameras and other apparatus.
3. A daguerreotype studio in operation.
4. Examples of early photographic processes, and of processes now obsolete or superseded.
5. Early examples of photo-mechanical apparatus and results.
6. Collections of photographs by early workers.
7. Photographic literature.

N. B. It is requested that possessors of apparatus or pictures (negatives or positives) of historical interest will communicate with the committee. There will be no charge made for exhibits under this head, and the committee are prepared to pay all expenses of carriage on objects accepted by them for exhibition.

II. Pictorial Photography.

A loan collection will be arranged with a view to display the present position of pictorial photography.

III. Portraiture and General Technical Photography.

In this section will be included exhibits of general photography, portraiture, landscape, etc. It is open to all photographers, and it is hoped that many portraitists will exhibit on a large scale in this section, to which a very important proportion of the space available will be devoted. The exhibits will not be submitted to a Committee of Selection, but the Organizing Committee reserve the right to reject any work they consider unsuitable from inferior technique or from any other consideration.

It will include:

1. Examples of portraiture, landscape, and architectural work.
2. Specimens of photography produced under exceptional difficulties, or by means of special apparatus.
3. Transparencies, lantern slides, and enlargements.
4. Ceramic photographs and enamels.
5. Illustrations of processes of every kind, including diazotype, ferro-prussiate, and kindred processes for copying drawings, etc.
6. Demonstrations of various photographic processes.
7. Models of studios, methods of glazing, studio accessories, etc.
8. Photography by artificial light.
9. Methods of printing photographs rapidly and in quantity.

IV. Apparatus and Material.

In this section manufacturers and dealers are specially invited to exhibit. A plan of the area assigned to it and to Section V. will be prepared, and can be obtained at the Society's offices, showing the method of subdivision.

It is anticipated that this section will include:

1. Apparatus and appliances of every sort used in the production and display of photographs, plates, papers, chemicals, apparatus for coating plates and paper, etc.

2. Machinery in motion, showing the various processes employed in the manufacture of lenses, cameras, etc.

3. Illustrations of the work produced by the apparatus and materials shown.

4. Animated photographs and apparatus for their display.

V. Photo-mechanical Processes.

This section will comprise all exhibits relating to the processes classed as photo-mechanical—*e. g.*, photogravure (intaglio), line and half-tone photo-engraving, collotype, photo-lithography, photo-zincography, Woodburytype, etc. A plan of the area assigned to it and Section IV. will be prepared, and can be obtained at the Society's offices, showing the method of subdivision.

It will also include examples of letter-press printing, which includes half-tone work, journals, and books produced partially by photography, drawings made with a special regard to their being reproduced photographically, textile and paper-staining processes, and photo-mechanical three-color printing processes.

N. B. It is hoped that as many as possible of the processes will be actually shown in operation.

VI. Scientific Applications of Photography.

In this section will be included the various scientific uses to which photography is put.

It is expected that among other exhibits will be:

1. Photo-micrographic apparatus of the latest designs, photo-micrographs, micro-photographs, etc.

2. Astronomical photography. The complete mounting for one of the instruments now employed in mapping the heavens. Space will be placed at the disposal of the leading observatories in the world.

3. Photographic recording instruments and photographic records.

4. Military photography (including the photography of projectiles, photographic surveying, and balloon photographs).

5. Engineering photography.

6. Medical photography, including photography with the x-rays.

7. Subterranean photography.

8. Meteorological photography (clouds, lightning, etc.).

9. Spectroscopic photography.

10. Instantaneous photography, applied to the movements of animals and to the phenomena of rapid movement, etc.

11. Composite physiognomy.

12. Geological photography.

13. Metallurgical photography.

VII. Photography in Colors.

This section will comprise color photographs and apparatus for producing and seeing color photographs, by whatever method produced.

VIII. Photography as a Science.

In this section will be included examples of results obtained by different experimenters in carrying out scientific investigations connected with photography—*e. g.*, examples illustrative of chemical and physical processes and investigations bearing on photography; experimental plates and apparatus employed in devising the various systems of plate-speed measurement; a similar collection with reference to the production of orthochromatic plates, etc.

N. B. The committee request that the possessors of any objects of interest coming under this heading will communicate with them. There will be no charge made for exhibits in this section, and the committee are prepared to pay all expenses of carriage on objects accepted by them for exhibition.

Regulations for Exhibitors Requiring Floor Space in Section IV. (Apparatus and Material), and in Section V. (Photo-mechanical Processes).

1. *Date of Opening.* The exhibition will be formally opened on Wednesday, April 27, 1898, and will close on Saturday, May 14, 1898.

2. *Charges.* The space shown on the lithograph plan will be apportioned among exhibitors in these sections at a uniform price of one shilling per square foot, with a minimum charge of one pound.

3. *Applications for Space.* All applications for space must be on an attached form, and should be addressed, "The Secretary, Royal Photographic Society, 12 Hanover Square, London, W.," and all space must be paid for on allotment. They will be considered in order of priority of application, the first allotment being made on November 1, before which date no application will be dealt with. The allotment will be made by a sub-committee, the members of which will not be interested as exhibitors. It is desirable that early application for space should be made, in order that the allotment may be facilitated.

4. *Arrangement of Exhibits, etc.* A certain number of tables will be available, and these the committee will place at the disposal of exhibitors. Beyond this exhibitors must pay all expenses connected with the transit, delivery, fixing, and removal of their exhibits, and with the provision of counters, stands, shelves, and showcases. The committee are prepared to receive, unpack, display, and return exhibits by special arrangement.

5. *Signs and Hand-bills.* All displayed signs, notice boards and bills, and all hand-bills and printed matter for distribution shall be subject to the approval of the committee.

6. *Subletting.* No exhibitor will be permitted to transfer or sublet any part of his space, nor to allow any other than his own duly admitted exhibits to placed thereon, without consent of the committee.

7. *Catalogue.* The committee will compile a catalogue of exhibits, which will be as far as possible descriptive and illustrated.

8. *Dates.* Exhibits can be received at the Palace on or after April 12th. The last day for the reception of exhibits is Saturday, April 23d, and all exhibits must be removed between Monday, May 16th, and Thursday, May 19th, both days inclusive.

9. *Protection.* Reasonable care will be taken to protect exhibits, but neither the Crystal Palace Company nor the Royal Photographic Society will be responsible for any loss or damage arising from fire, accident, or from any other cause.

10. *Report and Awards.* The Council of the Royal Photographic Society are making arrangements for an independent report upon the exhibition, but no awards will be made.

11. *Dangerous Exhibits.* No substance of a dangerous or explosive nature can under any circumstances be exhibited.

12. *Sales.* Orders for goods may be taken, but no goods shall be delivered at the Palace itself other than photographic books or periodicals.

13. *Lighting and Water Supply.* Arrangements may be made with the Crystal Palace Company for the supply of current for special lighting purposes, and for a water supply for demonstrations, etc.

14. *Photographing.* Messrs. Negretti & Zambra hold a concession from the Crystal Palace Company which gives them the sole right of taking photographs for sale in the Palace and grounds; but such concession will in no way interfere with exhibitors desiring to demonstrate any photographic process and operation, providing that photographs taken in the Palace or grounds are not sold and do not include any part of the building or grounds.

15. *Admission.* A non-transferable admission ticket and a copy of the catalogue will be supplied to each exhibitor. In these sections admission tickets will also be supplied to attendants where necessary. These tickets will pass the holder into the Palace without payment on each day of the exhibition.

16. *Machinery in Motion.* Exhibits which include heavy machinery in motion will be displayed in the western galleries immediately adjoining the entrance from the High Level Station.

17. *Gemeral Conditions.* All exhibits are subject to the approval or rejection of the committee, and all exhibitors must conform to the regulations of the committee.

Further information, later details, etc., may be procured by applying to the Secretary, Royal Photographic Society of Great Britain, 12 Hanover Square, London, W., Eng.

THE ARTISTS AND THE PHOTOGRAPHER.

WHETHER photography be admitted as one of the fine arts or not (there is no question about the matter in the editorial mind), it is a sign of the times that the photographer and the painter are rapidly arriving at a better appreciation of each other's aims and ideals.

A significant proof of this is seen in the Department of Fine Arts at the American Institute Fair now being held in this city. In this exhibition may be seen over one hundred and fifty paintings, pictures in black and white, sculptures, and miniatures by the most famous American art workers, gathered together by a veteran photographer, Mr. Geo. G. Rockwood, of New York.

This department was conceived, organized, and carried out by our old friend in photography, and it is an honor to his energy as well as a tribute to his wide connection and reputation among American artists. It is a sign, also, of the growing

goodwill between photographers and painters that a photographer could accomplish so notable a work within sixty days by correspondence. We learn, further, that Mr. Rockwood was assured that if the exhibition is repeated in 1898 he can have the choice of the best works in the leading American studios.

SOME RECENT PHOTOGRAPHIC PATENTS.

[OUR readers can obtain copies of these patents, at ten cents each, from Messrs. Alexander & Davis, patent attorneys, Washington, D. C., by whom this list is supplied.]

CAMERA SHUTTER. William F. Cork, Ivy Mills, Pa. No. 590,752.

This device comprises a rotary shutter provided with the usual exposure aperture and means for regulating the rapidity of its movement; a lever for setting the shutter, covering the exposure opening during the action of setting the shutter; a stop to secure the shutter in its various positions, and means for its release.

MAGAZINE CAMERA. H. W. Locke, Rochester, N. Y., assignor to W. F. Carlton, same place. No. 589,475. September 7, 1897.

The camera comprises an upper compartment which receives the plates to be exposed, and a lower compartment which receives the exposed plates. This lower compartment is in form of a drawer, which may be withdrawn to remove the exposed plates. In the upper compartment is a device for moving the plates forward into position for exposure and for dropping down into the drawer when exposed. Light cannot travel from the upper into the lower compartment.

PHOTOGRAPHIC DRYING RACK. William H. Lewis, Huntington, N. Y. No. 589,843. September 14, 1897.

This rack is the well-known folding and drying rack with an auxiliary rack pivoted to one of the sides of the frame and adapted to swing into or out of position. By means of this the rack is well adapted to receive plates of three sizes. When the auxiliary frame is in position the rack will receive very small and medium-sized plates. When the extra frame is folded the rack is adapted to receive large plates.

PHOTOMETER. John L. Fuelling, Peoria, Ill. No. 589,649. September 7, 1897.

This patent covers an ingenious device for determining the length of exposure for plates of a known sensitiveness by the effect of light rays on the pupil of the eye. It comprises a magnifying mirror and a pupil-gauge. The pupil-gauge is preferably transparent, and is supported in a frame opposite the mirror. In operation the gauge is placed near the eye, and the gauge and the eye are reflected in and magnified by the mirror. The gauge is then adjusted to the size of the pupil, and an adjacent scale indicates the length of exposure. In using the device the eye is directed at the object to be photographed, and the light rays reflected therefrom affect the eye in the usual way. By these means the light on or about the object is gauged and not the light which is simply around the camera, as is the case with the devices which employ paper strips.

CAMERA SHUTTER. William V. Esmond, assignor to E. & H. T. Anthony & Co., New York. No. 591,347, October 5, 1897.

This device consists of a movable wing provided with an exposure-aperture, a spring plate attached to the wing, a flat perforated diaphragm attached, to be slipped under the spring-plate, and interlocking or engaging devices on the spring-plate and diaphragm to aid in holding the latter to the shutter-wing.

LANTERN SLIDE MOVING DEVICE. Hugo Newman, New York City. No. 590,903. September 28, 1897.

The invention comprises a series of mechanisms whereby the slides may be automatically moved from a magazine into which they are placed, to the lantern, and after exposure moved away from the lantern into another magazine. Electrically operated devices perform these operations so that a lecturer can operate the device from a distance to expose the slides, as desired, by simply pressing a button.

KINETOGRAPHIC CAMERA. Francois Morand, Aix-les-Bains, France. No. 590,766. September, 28, 1897.

This device consists of a window and means for causing a roll of film to pass across the window; a screen adapted to revolve in the centre laterally of the window, having a sector-shaped recess, and having the remainder composed of transparent-

colored sectors, the sum of the colors of which, with equal quantity and radiation, are equivalent to white light.

PRINT WASHER. H. Shuring, Huntington, Ind. No. 590,632.

An inverted conical vessel is provided at its bottom with a combined inlet and outlet pipe. At its top this vessel is provided with an overflow so that the washing-water flows in from the bottom and out at the top. When the washing is finished the water in the vessel may be drained off through the drain-pipe.

TRIPOD. A. F. Walter, Chatsworth, Ill. No. 590,636.

The camera-supporting plate in this device is carried on the tripod-head by means of a ball-and-socket joint which is directly beneath the centre of this plate. This permits the camera to have a universal movement by which the camera may be locked in any desired position.

PHOTOGRAPHIC FILM. William V. Esmond, New York, assignor to E. & H. T. Anthony & Co., of same place. No. 591,346. Dated October 5, 1897.

The invention covers the manufacture of strips of sensitive film, a piece of black paper attached to each end thereof, one of said pieces having adhesive material upon it, the whole being rolled upon itself into a spoolless coil, with the last-named piece of black paper outwardly, and a label or cap of light obstructing material attached to the edges of the strip at each end of the coil; the said labels and the end of the external piece of black paper being confined in place by the adhesive material.

ROLL-HOLDING FLASHLIGHT CAMERA. James C. Blackmore, Newark, N. J. No. 590,204. September 21, 1897.

This is an ingenious device operated in the manner of a pistol. It is formed with a pistol grip; a revolving barrel to receive the flashlight cartridges; a hammer to discharge the cartridges; a trigger; film-roll which is connected to the hammer so that when the pistol is cocked a new portion of film will be brought back of the lens; a shutter which is connected to the pistol trigger, and operated thereby to expose the film as the pistol is fired. In operation the pistol is cocked and fired, and automatically the film is moved and the shutter opened and closed.

EDITOR'S TABLE

THE usefulness of the RAY FILTER, made by the BAUSCH & LOMB OPTICAL CO., Rochester, N. Y., is never more clearly apparent than in photographing autumn landscapes. Every disciple of the camera has doubtless had the disappointment of selecting a particularly charming bit of scenery which, in itself, might not be particularly attractive, but to which the tints of the autumn leaves have added an irresistible charm, and when the exposed plates were developed, found that all of the life of the original was lost, owing to the lack of proper preservation of color-values, halation in the distance and over-exposure of the sky. The use of the bichromate of potash ray filter will obviate these difficulties, and render the same contrast in the negative as is observable in the original landscape. Every shade of color-value can be perfectly preserved. Trees, in which only a portion of the leaves have changed color, or where a number of shades or colors are present, are reproduced with all the shades in their natural intensity, and the proper perspective developed by the clearing away of the haze which usually obscures the distance, and the reproduction of the tint gradation of the sky from zenith to horizon, with any clouds which may be present.

MR. CHARLES HETHERINGTON, long associated with the AMERICAN ARISTOTYPE CO., has severed his connection with that company, and will hereafter engage in private enterprises.

A SELECTION of rich glossy gelatine and collodion plants has beeu received from the REICHENBACH, MOREY & WILL CO., of Rochester, N. Y., as samples of their Victor and Vera print-out papers. We can recommend our readers to try the products of this firm, which is putting out several specialties of remarkable merit.

THE NEW NON-HALATION PLATE, without backing, just introduced by Mr. JOHN CARBUTT, is spoken of with much favor for work where glossy surfaces are to be photographed, interiors and the like. We hope to give further particulars of it in our next.

AN EASTERN PHOTOGRAPHER of high reputation has an opening for a thoroughly artistic operator who can do good work along pictorial lines. This is an exceptional chance for the right man. Will any such operator desiring a change of studios kindly send his name and address to this office.

A TRUE KENTUCKIAN.—MR. JAMES MULLEN, of Lexington, Ky., sends us an excellent example of portraiture which does him credit. The subject is "Dr." C. E. MOONEY, one of the most popular men in Kentucky, and probably the greatest living anti-prohibitionist. The "Doctor" claims to have averaged, for over fifty years, twenty drinks of whiskey *per diem*, making a grand total of 365,000 drinks. The portrait shows a genial, well-preserved man, with plenty of character, a luxuriant beard, and a head of hair of which a poet might be proud. The "Doctor" was born in 1824, and is the editor of an amusing literary symposium, entitled *A Dish of Salmagundi*, which has had a wide circulation in the Southwest.

Mosaics, 1898, will be ready in a few days. Have you ordered a copy yet? If not, do so today. Price fifty cents, post-paid.

PIRIE MACDONALD AND THE RAY-FILTER.—The following interview with Mr. PIRIE MACDONALD, which appeared in the Albany, N. Y., *Argus*, of September 12th, should set every photographer to thinking, coming as it does from a man who is thoroughly in touch with every advance in photographic matters:

"What is to your mind the most interesting topic of the day, I mean to the amateur?"

"Please do not make that distinction. When it is a question of interesting topics, the amateur and professional should be equally interested in everything photographic, and they are. It seems to me that orthochromatic photography is the most interesting problem we have ever had to tackle, and to-day it is being worked on to a greater or less extent by all photographers, high and low, amateur and professional. You know, of course, that in the ordinary dry-plate the blue and violet rays have a proportionately greater actinic than those from the other end of the spectrum, the greens, yellows, and reds (actinism is defined by Webster as a property in the solar rays which produces chemical changes, as in photography). As a consequence, when an exposure is made of a subject having a great range of color, such as, for example, the ordinary landscape, the blues in the sky are exposed so rapidly that they are overdone when sufficient exposure is given to get the detail in the greens and yellows.

"The ortho- or isochromatic plates" (from the Greek ortho, meaning right, and iso, meaning equal, and chromatic, color) are particularly sensitive to orange (yellow and red), and expose them more rapidly than the plain plate, thereby giving the blues and violets less opportunity of becoming overdone in a normal exposure.

"The apparatus that is made by BAUSCH & LOMB, of Rochester, and known as the Ray-filter, is a cell fitted with a collar which fits over the lens. It is filled with a solution of bichromate of potash, which is orange in color. Its mission is to control the blue and violet rays, which have an exalted actinic action, and it does this by coloring the picture that you see on the ground-glass uniformly yellow. Then expose on isochromatic plate (that is particularly sensitive to yellow) and you have a picture that is in harmony.

"Ruskin says: 'Art is that in which the hand, the head, and the heart go together.' Oh! those people who only use their heads and their hands had better keep out of photography."

THE KIRKLAND LITHIUM PAPER CO. have recently evolved a single bath formula that gives beautiful black tones and pure whites on their matt paper. This information will be welcomed by all amateurs and professionals who for various reasons do not like to go to the trouble and work of separate baths.

A NEW ICONOSCOPE.—The difficulty with finders is that the image formed by them is either dimmed by the ground-glass upon which it is projected, or by conflicting reflections, or is so imperfectly formed as to be on the whole very unsatisfactory. The chief trouble is in the illumination, it being, as a rule, insufficient, especially in confined situations where the aid of a finder is most required. The BAUSCH & LOMB OPTICAL CO.'S new iconoscope is entirely free from all these objections, as, owing to its peculiar construction, the collecting lenses, which are of large size, collect an immense volume of light, all of which is concentrated to form the virtual image, which is viewed direct, there being no intervening ground-glass, lens, etc., to interfere with its clearness. With the iconoscope, objects are clearly discernible even in the darkest shadows. The instrument is compact; there is nothing to get out of order, in fact. Every one interested in any way in finders should write for descriptive circular, addressing Department G., care of the above firm.

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WILSON'S PHOTOGRAPHIC MAGAZINE.

EDITED BY EDWARD L. WILSON.
JOHN A. TENNANT, Associate Editor.

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ON THE GROUND-GLASS.

THE *Ground-Glass* focusses happily upon the end of a year fruitful in real progress and ripe with promises of better days to come. In almost every department the photographic record of 1897 shows distinct advancement and an improved condition of affairs. The professional photographer especially has reasons for solid encouragement. Business is steadily but surely reviving; better work is becoming more common, thus forcing the general standard toward a higher plane; portraiture is being quietly transformed from a trade to an art, and higher prices are more readily obtainable to-day than a year ago. The sight of these facts inspires *The Ground-Glass* to incite its followers to redoubled efforts toward success. Let the good work go on.

During the past month the Strauss studio, at St. Louis, was the scene of an innovation which will undoubtedly tend to give a better tone to the general appreciation of portraiture. The occasion was an exhibition of original drawings by famous illustrators, which drew to this well known gallery all the lovers of art in that go-ahead city. The catalogue of the exhibition was a charming piece of work, printed on hand-made paper 5 x 9½ inches, and illustrated in a dainty fashion with engravings of the Strauss studio, portraits by Strauss, and many reproductions of the original drawings on exhibition. We would urge all who can to obtain a copy of this catalogue as a model of its kind. Mr. Strauss is to be congratulated on the great success of this effort, and his enterprise deserves imitation.

A new helper has appeared for which *The Ground-Glass* has often scanned the photographic horizon. It is a platinotype printing paper simple in manipulation and reasonable in price. This paper, which retails at the price of ordinary matt print-out paper, simply requires exposure under a negative until the details are faintly visible, is developed to the desired strength by immersion in warm water, and cleared (or fixed, so to speak) by immersion immediately the desired strength is reached in a bath of acidulated water as employed in the other platinum printing processes. The paper is obtainable in two thicknesses and rough or smooth in surface as desired. *The Ground-Glass* is not afraid of being accused of attempting an advertisement in predicting that *Platini*, as the new paper is called, will be one of the most popular printing papers of 1898. It is introduced by the National Photo-Paper and Chemical Co., of Springfield, Mass.

Not often is *The Ground-Glass* permitted to focus on so happy an event as occurred a few weeks ago in the city of Amherst, Mass. There was celebrated, with befitting ceremony and joy, the golden wedding of Mr. and Mrs. J. L. Lovell. Our old friend and co-worker, Mr. J. L. Lovell is well known to the fraternity in New England and elsewhere. The event was peculiarly interesting to Mr. Lovell's many friends in the profession, because it also marked the completion of almost fifty years continuous work in photography.

Mr. Lovell began in 1849 at Ware, Mass., as a daguerreotypist, and is, therefore, one of the oldest photographers in his State. In the early fifties he was associated with Messrs. Whipple & Black, of Boston, and afterward undertook much important astronomical and geological photographic work for the illustration of certain publications of the Massachusetts and national governments. Mr. Lovell was one of the pioneers in the manufacture of dry plates, an industry since so successfully developed by his son, Mr. C. O. Lovell, of *Climax* fame. Mr. Henry L. Lovell, an older son, is associated with the veteran photographer in his business. We are sure that the followers of *The Ground-Glass* will join in this focus upon the happiness of Mr. and Mrs. Lovell, wishing them "many years."

Another veteran appears on *The Ground-Glass*, a familiar, cheery face, that of Jex Bardwell, of Detroit. Envelopes for the decoration of the craft-room in the Bardwell Home are coming in to the committee steadily, but not yet in sufficient numbers. Send in your Christmas gift that your name may be focussed as one of those who do not forget a friend. Mr. J. F. Ryder, of Cleveland, who has done, and is doing so much for the completion of the Home Fund, sends us the subjoined letter, which will interest every one:

AKRON, OHIO, Nov. 16, 1897.

JAS. F. RYDER, ESQ.,
Cleveland, O.

DEAR SIR: I am very much interested in your "Dream Camera" sketch, reprinted in the Cleveland *Sunday Voice*, from WILSON'S PHOTOGRAPHIC MAGAZINE. I think your effort to help provide a home for a poor and deserving old man is very commendable, and, although not a photographer, I beg that you will allow me to contribute a dollar to the fund, which I herewith inclose.

I have an old picture of my father and mother, in a case, taken on their wedding day, by Mr. Jex Bardwell, of Detroit. May you have speedy success in your good work.

Sincerely yours,
(MRS.) M. JONES.

All honor to Mrs. Jones. Now let the craft follow this example, and we will make Mr. and Mrs. Bardwell happy.

As these pages are being corrected for the press we learn with sorrow of the death of James Landy, Esq., of Cincinnati. By this unexpected blow American photography loses one of its staunchest friends and workers, whose place will be difficult to fill.

In a few days photographers from Klondike to Tasmania will be focussing upon the host of good things given in the photographic year-books. *Mosaics*, the old favorite, will, as usual, be carried in the pocket as the best of all. *The Ground-Glass* knows all about *Mosaics*, and has watched its making with absorbing interest for the past few months. Its 300 pages focus all the best work and finest pictures of 1897. Get it, and train your mental camera upon it. There never was such a book for the money.

A HAPPY CHRISTMAS TO OUR READERS, ONE AND ALL.

SOMETHING NEW IN SILVER PRINTING.*

BY R. ED. LIESEGANG.

THE necessity of using gold in the finishing of printed-out chloride of silver papers has, no doubt, often been regretted by photographers on account of the greatly increased expense.

Now, I have found that even without gold beautiful tones may be obtained on gelatino-chloride of silver paper, which, of course, greatly reduces the expense. The paper is to be about half printed, and then developed with gallic acid. Following this up with the usual fixing-bath, green-black to brown tones will result. Development with gallic acid is over thirty years old; but until now a combined toning and fixing-bath has always been used after development, as formerly the tones, obtained by simply fixing, were not pleasing. So Carey Lea wrote, 1864: "What is needed in the developing process is some method which will give the print a good color in the developing-bath, which color will resist the reducing effect of the fixing-bath, so that there will be no necessity to use a toning-bath."

This want is now filled. It is necessary to use as little liquid as possible while developing. I make a stock solution:

Water . . .	6 ounces:	8 minims.
Gallic Acid		46 grains.
Acetate of Soda . . .		155 "
Gum Arabic		155 "

(The added gum arabic gives better keeping quality to the developer.)

Two ounces of this solution are sufficient for four pictures of size 5 x 7 inches. The development of the half-printed pictures requires about two minutes; they are then rinsed and fixed in a 10 per cent. fixing-bath.

In place of the gallic acid very diluted aqueous solutions of pyro, paramidophenol or metol may be used without the acetate of soda. A little gum arabic or fish-glue will be beneficial the same as with the pyro developer, increasing the keeping quality of the developers.

[See the portrait of Herr Liesegang given on another page of this issue—engraved from a print by the method here presented. ED. W. P. M.]

INTENSIFICATION OF GELATINE NEGATIVES.*

BY W. T. WILKINSON.

NEGATIVES that are too thin to yield good prints can always be intensified easily, providing one precaution be observed, viz.: that they are perfectly fixed, as it is the invisible silver salts left in the film that cause stains, and not on account of any slight trace of hypo that may be left in.

Thin negatives are of two sorts, viz., those that have been properly exposed but not developed far enough to allow of a proper density being obtained, and those which are over-exposed and, which being developed with a normal developer, cannot be got sufficiently opaque.

When it is seen that a negative is flat and thin upon taking from the fixing bath, it should be washed for a few minutes, and then placed in a clean solution of hypo, and left there for at least ten minutes, then washed for the usual time and dried. Negatives that are to be intensified can be done while wet, but it will be found that the best results are to be obtained if the negative

* Written for Mosaics, 1898, but received too late.

be allowed to dry first. For intensifying gelatine negatives there is nothing better than the mercury method, using a solution of either sulphite of soda or carbonate of soda with which to blacken the bleached film, except in cases where an extra thin negative is dealt with, in which case a solution of iodide of potassium should be used, which acts very energetically and gives a much stronger negative.

When a negative has been stained in intensifying it is usual to say that it has not been properly washed; this is not so in the great majority of cases; the fact is that it has not been properly fixed; if a negative fixed as recommended above be rinsed back and front under the tap for five minutes it can be intensified with steam, as even should there be a little hypo left in the film and cause a scum that scum can be removed with a pad of cotton-wool, but the negative on blackening will be free from stain. On the other hand, remove the negative from the fixing-bath directly it is cleared, give it an extra washing, and use a hypo eliminator, but when it is intensified it will be stained; therefore, it is imperative to see that negatives intended for intensification are properly fixed, that being of more importance than extra washing.

THE PLANAR LENS.

REGARDING the new Planar lens just introduced by the firm of Carl Zeiss & Co., Jena (American agent, E. B. Meyrowitz, E. 23d St., New York), the subjoined communications appeared in a recent number of the English *Amateur Photographer:*

This lens is the invention of Dr. Paul Rudolph, who is well known as the originator of several other anastigmats, and is made at Carl Zeiss' factory at Jena. Hitherto there have been no lenses, highly corrected for a large aperture, which are sufficiently rapid for difficult studio work and high-speed exposures, with the sole exception of the "Stigmatic," *f*/4. In the smaller sizes this new lens is even more rapid than the "Stigmatic," one of eleven centimetres focal length, covering a plate 9 by 6 centimetres with its full aperture of *f*/3.6; in the larger sizes the apertures range from *f*/3.8 to *f*/6. From this it will be seen that the new objective is, perhaps, more nearly "universal" than any other, for not only can it be used for those subjects which immediately occur to one, viz., portraiture, kinetography, and all kinds of instantaneous work, but it also forms a moderately wide-angle lens, including an angle of up to 72 degrees, and the first five of the series (Ia) are specially corrected for photo-micrography and projection.

The "Planar" is symmetrical, and each half consists of a single positive lens separated by an air-gap from a negative lens which, in turn, is formed by a positive (bi-convex) cemented to a negative (bi-concave) lens. The two components of the negative system have nearly equal refractive indices, but the dispersive power of the positive element is less than that of the negative.

Thus it will be seen that the principle of Gauss' telescope objective is utilized for the correction of spherical aberration with a large aperture, while chromatic aberration is corrected in an entirely new manner, and astigmatism is compensated without the disadvantages of a great separation between the lenses or thickness of the elements.—*Philip Jourdain.*

In addition to this Dr. Rudolph says:

"The term 'universal lens' might be taken for the designation of an objective which will serve as many purposes as possible (for instance, those of an amateur). In this sense I consider the 'Satz anastig-

mats,' Series VIIa., as made by Messrs. Carl Zeiss, the most universal lenses, for every lens of the Satz or convertible anastigmat is an anastigmatically corrected single lens with only *two* reflecting surfaces (*i. e.*, between air and glass), which, having an equivalent focus of considerable length, is quite fit for large portraits and landscape views.

"The combined objective, the 'Satz anastigmat,' is a symmetrical doublet with only *four* reflecting surfaces, and may advantageously be used as a rapid wide-angle lens (relative aperture, according to the selection of combined single lenses, equal to 1/6.3, 1/7, or 1/7.7), for instantaneous views, groups, reproductions, and interiors. To be short, with a Series VIIa. 'Satz anastigmat' lens, one is able to meet all the wishes of an amateur, for, especially if the 'Satz anastigmat' is one of the latter description (1/7 or 1/7.7), one has *three* objectives of different focus, and the smallest possible number of reflecting surfaces.

"In the *above* sense the *Planar* is, of course, no universal lens, and the catalogue of Messrs. Zeiss accordingly says: Series Ia. Planar, rapid *special* lens for instantaneous, portraits, etc.

"The term universal may, however, also be used in a different sense, namely, one may say that one objective is for a few *certain* purposes of more universal capacity than another, and in this sense the Planar is far superior to any previous construction.

"The Planar is as rapid as a Petzval portrait lens, and its anastigmatic flatness of the field is superior to that of the anastigmats. Moreover, the sharpness of the image obtained by the Planar may be compared to that of the microscopic objective.

"The Planar is therefore suitable for portraits, and at the same time of more universal use for reproductions (autotypes, process and line work) and microscopic magnifications (*i.e.*, 50 diameters and more) than any other type of lenses hitherto known. In this regard the opinion of Mr. Ph. Jourdain, 'more nearly universal than any other,' seems to be quite justified."

A NEW USE FOR OLD DEVELOPER.*

BY G. G. MITCHELL.

THIS is an age in which we every now and again hear a good deal about the profitable use of by-products. Materials which often cause considerable expense to get rid of by their bulk or inconvenience sometimes suddenly leap from being relegated as rubbish into a valuable property, in some instances more valuable than the manufacture or industry of which they have been considered the refuse. In a very small way I have to describe how I found a photographic refuse serve a useful end.

Exhausted developers are not much esteemed, so far as I know for any good at all, and the common practice is to allow them to disappear down the sink. It so happens, however, that I always have a quantity on hand, which the longer it stands, becomes, of course, the more powerful in color, and which I suspect might be found useful in various ways, such as a wood-stain, etc. I wish to mention one use I make of it, which others may find advantageous also.

We have all heard of men who always make perfect negatives. Some reader may have seen such a man; I have not, and the general practice being touched with that imperfection attaching to this vale of tears,

* Written for Mosaics, 1898, but received too late for insertion.

I conclude that every mere-man photographer sometimes makes a negative a little bit short of perfection. Now, then! Say that it is a nice negative on the whole, but a little weak in some part, a ready remedy may be found in the judicious use of a little of the by-product aforesaid. My way of using it varies according as the trouble may suggest. But suppose the case is a vignette, the background of which you think wants more strength in whole or part to greatly improve it. This is how I go about it: After the negative is fixed and washed I allow it to drain a little, and then with a camel's-hair pencil apply some of the old dark-colored developer to the parts desired to be made "sit up" The wet state of the plate tends to keep the stain from making sharp edges, and any degree of softness can be gotten with care and practice. In this case a graduated background can be made giving the desired effect. A negative weaker at one end than the other can be equalized by a broad flooding, and particular parts or lights can be strengthened by the pencil and a drier state of the plate. It will be understood that a short supplementary washing should be given, and it should be noted that the plate must always be either moist or wet in order to be worked upon successfully. This staining has its limits, of course; other kinds of stains may be used in a similar way, but I find the professional by-product as good as any. I may add that I often apply it with my finger tip, but I advise some preliminary practice on the contents of the waste box.

Acid as usually employed will clear away any mistake, but if aniline dyes are used a prolonged wash under the tap is necessary to remove them.

AMATEUR PORTRAITURE AT HOME.

BY J. A. MACKENZIE.

If you watch the work of any progressive amateur, you will generally find several distinct stages of advancement. He may start out with a hand-camera, snapping at everything that comes in his way, but becoming more ambitious and dissatisfied with results, a larger tripod instrument is purchased and the snap-shot instrument is thrown on the shelf. His work now at landscape, etc., is much more encouraging, and if somewhat of a student, our amateur dips into works on art and composition, and begins to collect pretty little views that are a source of pleasure both to himself and friends.

Sooner or later the time will surely come when our artist will catch the craze to take portraits, the height of the amateur's ambition. He must hand down to posterity the likenesses of all his relatives and friends. Boldly he tackles the most difficult branch of photography, and many are the resulting failures. His first attempts are generally characterized by a stiffness of pose and flatness, combined with hardness, that make them an eyesore to his sitters. Personal friends are rendered cold and distant, and even more intimate relations may be broken off by these too literal pictures. The poor amateur begins to despair of ever taking a good presentable portrait.

Brace up! These failures should pave the road to success. Take your prints to a good professional photographer, and get him to criticise them and show you how their defects may be remedied. Purchase some books on lighting, and make yourself thoroughly familiar with their contents, and, above all, study the work of successful men. By combining such a course of study with constant practice the amateur can soon turn out work that will give

pleasure to his friends and be an honor to himself.

Good, creditable work can be done in an ordinary room, especially if there is a tall spacious window near the centre of one end. If this window faces the north and is open to the sky so much the better. First, we must keep in mind the one great principle of lighting, namely, there must be one source of illumination, or the light must fall on the sitter from one direction only. In accordance with this we cover up all other windows in the room. To get the light to fall diagonally across the face we cover up the lower half of the window chosen to furnish the light, and place the sitter away from the window and a little back. The distance will depend on the height of the window and must be such that the light will fall on the face at an angle of nearly 45°, and the catch-lights in the eyes will be distinctly visible and close to the edge nearest the light.

The camera should be placed a little nearer to the wall than the sitter, and you will notice that the nearer the camera is to the wall, and the further the sitter is away from it, the greater the contrasts. If the window is sufficiently high and spacious, so that the sitter can be placed some distance from the light, the contrasts will not be too great, and no screen is necessary. If such is not the case, a screen of cheesecloth or light pink muslin placed between the subject and the light will diffuse it, and by softening down the high-lights render the shadows less opaque. If there is a small opening in the screen which permits a beam of direct light to play on the face the effect will be better. Never use a reflector to light up the shadow side of the face. It violates the chief principle of artistic lighting by throwing light on the face from almost an opposite direction to the main source, which destroys the modelling.

A face correctly lighted has a few high-lights, namely, on the temples, nose, lips, cheeks, and chin, which are white or nearly white in the resulting print, and these blend into half-lights, half-shadows, and deep shadows. This gradation gives roundness or relief.

For background throw a black shawl over a frame or clothes-horse, or a cheap one may be made by stretching a sheet on a suitable frame and painting it with turpentine and lampblack. A little powdered chalk rubbed on near the centre with a rag will produce a light cloudy effect that will relieve the shadow side of the face, and give a much more brilliant result. Dark grounds are coming more in favor every year; they cause the head to stand out in relief, and form a pleasing contrast with the face, which should be the principle object in the picture.

As to the lens to be used, any good rapid rectilinear for a 5 x 8 or 6½ x 8½ plate, will make excellent portraits, with full opening. Never stop such a lens down, or it will cut under the skin and magnify any imperfections. To avoid foreshortening of the perspective, use it only to make prints not greater in length than one-half the focal length. For a sitting figure the lens should be about the height of the eye and the camera inclined a little forward, parallelism being restored by the swing back. In working in an ordinary room the photographer had best confine his efforts to bust portraits.

The art of posing will come to the amateur as he gains experience. Strive to make the pose as simple and natural as possible. Avoid showing accessories which detract from the subject. In all cases the head should be the centre of attraction, and have the highest light. Turning the shoulders in a slightly different direction than the head, gives life and variety to the portrait. The expression should be calm and unaffected, and will always be the most natural in a full face or three-quarter

view when the eyes are directed to the observer. This is readily obtained by having the sitter look into the lens.

To obtain softness and breadth, use the lens with full opening, and do not focus too sharply; give plenty of time and use weak developer deficient in pyro; do not carry this too far, or you will get flatness. Do not over develop, but stop as soon as the shadows begin to darken over.

DIPHENAL—A NEW DEVELOPER.

To the current number of the *Photographische Correspondenz* Dr. Julius Precht, of Heidelberg, contributes a note on this subject, an abstract of which may be interesting to our readers.

Diphenal is diamido-oxydiphenol, and is prepared from the acid extract of oxyazobenzole, and has been patented as a photographic developer by Leopold Casella & Co., of Frankfort, by whom it is placed on the market in the form of an alkaline solution, the salt itself forming white needle-like crystals, the solution being a dark-brown color, which on dilution with water forms a nearly colorless solution, which does not stain the films nor the fingers unless the latter are kept in the same for a very long time. It is stated to have all the conveniences of rodinal, with the advantages of pyro and iron. It gives extremely clear shadows, works very cleanly and free from fog, and gives all the delicacy and gradation of pyro. It surpasses all other developers in the latitude of exposure it allows, and with very great overexposure there is no trouble; what it is necessary to do is to develop until the high-lights are dense enough, and the shadows keep beautifully clear, more so than with any other developer except glycin.

It is specially suitable for objects with great contrasts, as it does not block up the high-lights, and amateurs who are by no means certain of their exposures will find it exceedingly useful, as it so rarely gives fog. It is not a very rapid developer, the half-tones and shadows succeeding the high-lights in a regular manner, and not coming up simultaneously as when metol, amidol, and rodinal are used.

The stock solution is, for ordinary work, diluted with 15 parts of water for normal and over-exposure, while for under exposure it may be used with only 8 or 10 parts of water. The brown color of the solution is not a sign of oxidation, as the stock solution has been kept for five months unchanged, and the diluted solution also keeps well. By repeated use the negatives do not, as with hydroquinone, become harder.

With normal exposure and concentration the image appears in about twenty seconds, and development is complete in from five to ten minutes. With under-exposed plates, and a strength of 1 : 8, development may be continued for half an hour without harm. When it is known that correct exposure has been given, the developer may be used 1 : 10, and the image appears very quickly, and development will be quite complete in about three minutes.

It is necessary to well wash the plate after development in order to free it from the developer. If some of the ordinary fixing-bath is mixed with a small quantity of the developer, the solution turns brown by the absorption of oxygen and a liquid is obtained which dissolves silver, and, therefore, can be used as a reducer. The brown solution thus formed also stains the gelatine. Diamido-oxyphenol can also be used without alkali as a developer, a property which is common to other para-amidophenols.—*British Journal of Photography.*

"COLORS" IN PHOTOGRAPHY.

BY CHARLES GRAVIER.

THERE is not here question of the photography of color, but of the "colors" which we desire to find in photographs. Let us state the question, or rather questions. 1. Who was to be deceived? 2. What was the reason for the deception?

In this matter of the Dansac-Chassagne process we were not the dupe of anyone, as we loudly, and very loudly, proclaimed in the journals, at the societies, and to Mons. Chassagne himself, that we were skeptical, and that, like St. Thomas, we desired to assist at a demonstration. It has not yet been possible for us to obtain this favor, although we offered to publish freely and gratuitously, in the journals for which we write, an account of the process and its possibilities.

M. Chassagne gave us, in March last, the explanation which was published in this MAGAZINE in May. It differs but little from that given in January, 1897, by Sir Henry Trueman Wood, and in February by Capt. Abney. In July Sir H. T. Wood wrote to the *British Journal* that he had perhaps gone a little too far in saying that it was essential to prepare the plate specially for the production of color prints. Nevertheless, he added that the "current photographic notions will be revolutionized, hundreds of persons in Paris having seen and admired the results obtained." To this last part I can reply.

There has been formed in London a firm called the Radiotint Co., which has caused to be sold on the Paris Bourse shares in the company. These, in the circular of a banking-house, dated June 30th, were said to be worth 77 francs, while they were put out at 25 francs. The circular further said that admitting that of the contracts already entered into, only one-half of the supplies contracted for were taken, the minimum profit would be 17,175,000 francs during the first five years of business. Make no mistake concerning the amount—17,175,000 francs.

On the Boulevard des Capucines an important building has been rented by a company, whose director for France, its colonies, and the countries under its protection, is M. G. Paillardin. This is according to the elaborate prospectus distributed in the building. Many employés are occupied in the work, and demonstrations are given there daily.

I went there, without making known my identity, and witnessed what was described by Sir H. T. Wood in his letter of July: "The result is obtained by first applying a liquid all over the print, and afterward working locally on the different portions of the image." In other words, I saw passed over the print a turbid, colorless solution (apparently albumen), which rendered the surface uniformly absorptive; then one by one, the three liquids (yellow, red, and blue), were passed over the portions to be colored. This, as our readers will recognize, is the commonly accepted method of albumen coloring, a solution of alkaline albumen being previously passed over the print to prepare it to take the colors.

Here, then, we have what is to give a minimum profit of 17,175,000 francs in five years! Who was to be deceived? Those who bought shares at a premium, or those who entered into large contracts in view of the great profit? It is a serious question. What was the reason for the deception? Here it seems there is room for investigation, for we are sure that the firms involved will desire to clear themselves of the imputation that they intended to profit by the credulity of the public.

THOSE WEIGHTS AND MEASURES.

BY C. H. BOTHAMLEY.

THE Presidential Address recently delivered by Lord Crawford before the Royal Photographic Society raises once more the question of the relative advantages and disadvantages of the metric system and the English system, and the difficulty of translating formulæ from the one into the other. Many of us, of course, have met with these difficulties, but when we are asked to take such an important step as to throw over the older system and to adopt the newer exclusively, it is desirable that a decision should be arrived at with due regard to the fact that there are two sides to the question. It may be a bold thing to attempt to criticise the address of the President of the Royal Photographic Society, but this is what we are proposing to do, for Lord Crawford said almost everything that could be said in favor of the metric system, while he carefully avoided saying anything about its disadvantages, and it has some serious disadvantages, although they are often kept in the background by its advocates. On the other hand, Lord Crawford said a good deal about the difficulties of the existing English system, but nothing at all about some of its compensating advantages.

It is often urged as one of the great advantages of the metric system that it is a natural system based on a natural unit, whereas the English system is an arbitrary one, based on an arbitrary unit. But this is not really the case, and one is rather surprised to find a scientific man of Lord Crawford's eminence making use of the argument. It is no doubt true, as Lord Crawford explained, that it was *intended* that the metre should be one ten-millionth part of the length of the earth's quadrant from the equator to the pole, but, unfortunately, as Lord Crawford did *not* remind his audience, the French men of science intrusted with the duty of measuring this distance made a mistake in their work, and the metre as actually constructed and now used is less than it was intended to be. Instead of taking 10,000,000 metres to stretch from the equator to the pole, it would take 10,001,472. The real metre, therefore, has *no* simple relation to the dimensions of the earth, and, to quote one of the foremost scientific men of the day, "the metre is, therefore, as much an arbitrary standard of length as our own yard." The only true definition of the metre is that it is the distance between certain marks on a particular bar of metal, and if this bar were lost it would be replaced by exactly the same methods as our own yard would be if it were lost. The truth is that neither system has any advantage over the other, so far as its fundamental unit of length is concerned.

Then, again, it is generally regarded as an advantage of the metric system that the subunits are multiples or submultiples by ten, but though this may possibly be an advantage so far as relates to multiples, ten is really, for practical purposes, by no means the best conceivable division. It is less convenient than twelve is, or than either eight or sixteen would be.

Perhaps the strongest point of all is that there is, or is alleged to be, a definite and simple relation between the unit of length and the unit of weight. No such relation exists in the English system. Moreover, in the case of the metric system it is only approximate. The kilogramme is defined quite separately from the metre, and it is not defined as the weight of a particular volume of water at a particular temperature as it was intended to be; it is defined as a certain mass of platinum kept at Paris, and known as the kilogramme des archives.

To quote again from the same scientific man to whom we have already referred, "this system of weights is perfectly arbitrary, inasmuch as it depends on certain experimental data about which there is no absolute agreement between observers."

This supposed relation between length and weight becomes most important when it is converted into a relation between volume and weight, but it will be clear that since volume is derived directly from length, and since the relation of length to weight is only approximate, the relation between volume and weight can only be approximate also. Even assuming that it were exact at the specified temperature, 4° C. or 39.2° F., it would not be exact at the ordinary temperature of 15° or 16° C. (58° to 60° F.), and the magnitude of the error varies with every different liquid.

Now, in the English system, the unit measure of capacity is defined with direct reference to the unit of weight, a gallon being the volume of ten pounds of water at a temperature of 62° F. Moreover, since 62° F. is the average temperature, it follows that the agreement between measure and weight in the English system is more accurate, under ordinary working conditions than it is in the metric system.

Lord Crawford in his address referred to the difficulty created by the existence of different ounces, but there are not (and never were) more than two—avoirdupois and troy, the latter being the ounce formerly used by apothecaries. At the present time the apothecaries' ounce, by weight or by measure, is identical with the avoirdupois ounce. Now the relation between an ounce of water by weight and an ounce of water by volume at 62° is precisely the same as that which is supposed to exist between the gramme and the cubic centimetre, or the kilogramme and the litre at 4°. The ounce by weight and the ounce by volume of water are identical. In the case of other liquids there is a difference proportional to the specific gravity of the liquid, but there is just the same sort of difference in the metric system. If you buy an ordinary ounce measure, the volume of the ounce is that of an *avoirdupois* ounce of 437.5 grains.

Most of the difficulties arise, of course, from the use of minims, of which there are 480 in the fluidounce, but these would disappear if we used fluidgrains instead of minims, as recommended by the Photographic Convention some years ago. The relation between the grain weight and the fluidgrain is the same as between the gramme and the cubic centimetre, or the kilogramme and the litre.

The great disadvantage of the metric system, to our mind, lies in the fact that, with the exception of the metre itself, the magnitudes of the subunits are not practically convenient. Why in foreign countries are all sorts of things sold by the half kilogramme instead of the kilogramme? Then, too, a centimetre is much less convenient as a measure of length than an inch, and the metric system has no subunit of length approximating to the exceedingly convenient English foot. The unit of weight and the subunits of length are too small. Everyone who reads many foreign photographic formulæ must have been struck with the fact that the volume of solution made up is far oftener 500 c.c. than a litre. The reason is a practical one; a bottle holding 500 c.c. can be manipulated with one hand, while a bottle holding a litre is too large and too heavy to be safely treated in that way. 500 c.c. is a little under a pint. For practical purposes a pint is more convenient than a litre.

So much for some of the weak points of the metric system. Turning now to the conversion of formulæ from one system to the other, we wish to point out that it can easily be done by a more accurate and direct method than that which Lord Crawford proposes. If your formula is entirely

in ounces and fluidounces, or grammes and cubic centimetres, there is no difficulty, because the relation of the ounce to the fluidounce is the same as that of the gramme to the cubic centimetre. You simply read ounce for gramme and fluidounce for cubic centimetre, or *vice versâ*. If, however, grains and minims are involved, you have to bear in mind—

1. Grammes per litre are parts in 1000.
2. Cubic centimetres per litre are parts in 1000.
3. Grains per ounce are parts in 437½.
4. Minims per ounce are parts in 480.

Then it follows that—

A. To convert grammes per litre into grains (solid or fluid) per ounce, divide by 1000 and multiply by 437½, or multiply by 0.4375.

B. To convert cubic centimetres per litre into minims per ounce, divide by 1000, and multiply by 480, or multiply by 0.48.

C. To convert grains per ounce into grammes per litre, divide by 437½ and multiply by 1000, or divide by 0.4375.

D. To convert minims per ounce into cubic centimetres per litre, divide by 480 and multiply by 1000, or divide by 0.48.

If an error of a little more than half a per cent. is permissible, the number 0.44 may be used instead of 0.4375.—*Photography.*

PHOTOGRAPHY IN AUSTRALIA.*

BY J. O. MOERCH.

To judge from the continual increase of the figures of our custom-houses, and from the flourishing state of our photographic stock-houses, photographic activity has taken a new phase in the Australian colonies. Some years ago, when the financial collapse of our banks ruined trade in every direction, photographers were severely affected, although the purchasing power of the amateur was limited to the most modest. For this reason, cheaper outfits, being in general demand, were stocked by our retail firms. Business in general is looking up again, and though the golden opportunities of the past are not any more available for our professionals, trade is steadily and healthily increasing. Prices, of course, have come down, and will hardly rise again, if it is not for work of an individual character, which certainly would always be appreciated. Our old firms are sticking to their old ruts, for fear that through innovation in style they might lose their customers. Anyhow, the low prices do not seem to have affected the energies of our business men, who keep on extending their operations and building new studios fitted out with all modern comforts, etc. The ever-increasing patronage of our galleries certainly justifies such a course.

Wages, of course, have come down, and economy had to be studied all around in order to meet the times.

The army of our amateurs is now increasing by leaps and bounds, and the photographic associations are doing a good deal, by local exhibitions, lantern evenings, practical demonstrations and lectures, to popularize photography as a hobby and a means of instructive recreation. The camera and the cycle are the two fashionable hobbies, and surely the great interest aroused by radiography and the cinematograph has a great deal to do with the increased attention bestowed on photographic pursuits. It was often maintained in English magazines that the Australian colonies offered no fair scope for obtaining photographic pictures. This certainly is a great mistake, and some of our foremost amateurs have successfully proved the contrary.

* Written for Mosaics, 1898, but received too late.

Indeed, some of them are quite on a level with the best, and for next year you may expect to compare some of their work in *Die Kunst in der Photographie*, which publication is preparing an issue of Australian work.

The only lines cultivated in photo-mechanical work are photo-engraving and photo-lithography, to which branches a good many firms are devoting their attention. The decline in prices and a very strong competition were specially felt in Melbourne, while the other cities are still obtaining fairly remunerative prices. The quality of the work is increasing, no doubt specially owing to Levy's screens. Some tame attempts have been made to improve blocks by handwork. Collotype is cultivated by one firm only, and heliogravure has never been introduced.

Our photographic goods are mostly of English or German origin, and very few American brands are on the market. This is certainly owing to the fact that American manufacturers do not appreciate the importance of the Australian market. In the advertising columns of our magazines I see but one firm represented; but, as I know by their agents, the goods of the said firm are gaining in favor every day, and already now a good demand for them is existing. Stock-dealers, of course, cannot be expected to stock goods if the demand is not created. English and German manufacturers are well aware of it, and, therefore, the number of foreign firms advertising in our magazines.

Among the photographic patents applied for in the colonies is one granted last year to the writer, which has a great interest, as it opens a new field to photographic activity in the technical direction. It embraces certain improvements with regard to decorating metallic surfaces by photography, the pictures consisting of gold, silver, or other metals or their oxides, permanently and lastingly fixed on to the metallic support. There is an important field for this process with jewellers, electroplaters, and general engravers, and also for making copies of documents which are proof against fire, water, atmospheric influences, etc. A lawsuit is just pending regarding Wilson's acetylene patent, the decision of which is expected with a good amount of interest by dealers and lanternists. Radiography is also being developed in many ways.

HOW TO KEEP STOCK SOLUTIONS.

BY C. F. TOWNSEND, F.C.S.

So many of the solutions used in photography deteriorate under the influence of light and air that it is well to know of good methods for preserving them in their pristine condition.

As regards the action of light, it is an advantage of course to keep the solution in orange-glass bottles, but it is far safer in any case to put the bottles in the cupboard. Where a bottle is often in use and exposed to the light, the best plan is to paste thick brown paper round the bottle, which makes an excellent shield. The following are the principal solutions requiring protection: silver nitrate, ferric oxalate, potassium iodide, varnishes, all stains and dyes.

Deterioration by exposure to the air is much more difficult to guard against than by exposure to light; but the difficulty can be overcome with a very small amount of trouble. The usual practice when making up a stock solution is to put the whole of it into one, or perhaps two, large bottles with more or less dubious corks or stoppers. During working hours the bottles get warm, the contents, especially the air above the

surface of the liquid, expand, and some of the air is driven out through the interstices in the cork or round the badly-fitted stopper. During the night the contents of the bottle contract as they get cold, sucking in fresh air. If the bottle contains pyrogallic acid, ferrous sulphate, or any other developer or oxidizable material the oxygen in that air is absorbed by the solution, which deteriorates accordingly. Every day this expulsion of exhausted air and fresh influx of air containing more oxygen goes on until the solution is rendered completely useless. Even if the stopper or cork be tight—a rather unusual state of things—a fresh supply of air is admitted every time some solution is taken out of the bottle. As the level of the liquid in the bottle is lowered, the air-space increases, until, if the bottle be a large one, the solution might almost as well be standing in an open dish.

There are two ways by which this state of things can be remedied. If the family bath-room is used at uncertain intervals as a dark-room, it is inconvenient to have any arrangement that requires fixing, so that the best thing for the amateur to do in this case is to fill a number of 3 or 4 oz. corked bottles with his stock solution. When corked, some paraffin candle ends or a quarter of a pound of white paraffin wax (to be obtained at the oil shop) should be melted up in an iron ladle or a tin box, and the tops of the bottles should be dipped into it so as to completely seal the cork. It is much better to use paraffin than sealing-wax, as the former soaks into the cork and fills up all the air passages; besides this, the paraffin does not chip and can be easily removed. For many purposes, by the way, it is useful to close the air-spaces in the cork by soaking in paraffin, but such corks must never be used for liquids such as benzine, varnishes, etc., that will dissolve the paraffin.

Stock solutions of any oxidizable material stored in the manner just described can be kept indefinitely. When one of the bottles is opened the deterioration extends only to that particular portion instead of to the whole stock, as always happens when stored in bulk in the usual way. The above method, however, is inconvenient where comparatively large quantities are used. In this case it is well to employ a large containing vessel, capable of holding, say 10 litres or 2 gallons. This vessel should be closed by a cork—preferably of India-rubber—at the top and should have a tubulure in the side, about an inch above the bottom. The latter opening should be closed by a good cork with a single glass tube passing through it, to which is attached an India-rubber tube by a brass pinch-cock or a screw clamp. Through this rubber tube the stock solution may be drawn off either into the usual measuring glass, or, better, into a fixed burette. Through the cork at the top of the vessel passes another glass tube, which is connected by means of India-rubber tubing to an oxygen-trap. Whenever any liquid is drawn out of the stock vessel, no air can get in to replace it except through the oxygen-trap. As the air reaching the large vessel contains no oxygen, it has no effect upon the liquid, which keeps in good condition for an indefinite time.

There are several forms of oxygen-trap, but the principle of all is the same. The simplest form, which can be easily made at home, consists of a small wide-mouthed bottle, holding say, four to six ounces. Two tubes pass through the cork, upright, one—the inlet tube—reaching nearly to the bottom of the bottle, the other terminating just below the cork. The bottle is half-filled with broken glass or beads, saturated with strong stock pyro-soda developing solution, containing both the pyrogallic acid and the alkali, which effectually removes the oxygen from air passing through it.

Another form of oxygen-trap consists of a tube passing through the cork of the stock container attached to a bulb and inlet tube bent so as to form what engineers call a "seal." The same form can be purchased fixed on a wooden stand, and is largely used in the analysis of gases.

Potassium cyanide deteriorates rapidly in contact with air, the carbonic acid present in the air turning out the hydrocyanic (prussic) acid from the cyanide, so that if large quantities of cyanide solution are made up they should be cut off from the air by a trap containing a solution of caustic potash or soda, instead of pyrogallic acid and an alkali. Of course this does not apply to sulphocyanide or ferro- or ferricyanide solutions, which are not affected injuriously by the air. — *The Amateur Photographer.*

NEWS AND NOTES.

Fading of the Latent Image. Some months ago the fading of the latent image on bromide paper, between exposure and development, was mentioned in these columns. A new instance has just come to hand which is of practical interest. A roll of bromide paper was exposed (or printed upon) in the ordinary course of business. Part of the roll was developed two days after exposure and the pictures indicated under-exposure. Four months afterward development of part of the remainder of the roll showed that the image had completely disappeared and nothing could be brought up. The final portion of the roll was therefore re-exposed, and, on development, the second image came up brilliantly. This would seem to prove that the latent image on bromide paper does fade, the time necessary for its disappearance depending on the shortness or completeness of the exposure.

Interesting Visitors. Mr. and Mrs. H. Snowden Ward, editors of the *Photogram*, London, are at present on a visit to this country. Mr. Ward brings with him an illustrated lecture on *Shakespeare at Home*, for which he is now booking engagements. This lecture has received high praise from the various English societies before which it has been given, and we would direct the attention of secretaries of our American societies, Shakespeare clubs, and similar associations to its attractive features. Letters addressed to Mr. Ward, in care of this office, will be duly forwarded.

Die Entwicklung der Auskopier-papiere (*The Development of Print-out Papers*) is the title of a valuable monograph on this latest wrinkle in the making of prints on print-out papers, by R. Ed. Liesegang, of Dusseldorf. The book is one of practical value to all using print-out papers, and deserves wide circulation. It can be obtained for fifty cents from Liesegang's Verlags buch-handlung, Dusseldorf, Germany.

Ortol-Hauff, a new developer. Photography records its trial of *ortol* as follows:

Another new developer has come upon the scene, the product of Hauff, and we have made trial of it. We are much pleased with its behavior. We got with it very nice negatives indeed, tending to softness, but with good printing quality. Inasmuch as it is a developer that may be restrained by bromide, many will like it and its working. It may be used somewhat repeatedly, and does not appear to stain the fingers or have any irritating effect on the skin. The image comes up within half a minute, and development may be completed in about five minutes, though we do not object to a moderately prolonged development. It is likely to prove a useful developer, and one without the drawbacks that hamper the

use of some. In some experiments with a brand of slow lantern plates we found with the addition of a little brom. ammon. and carb. ammon. that it gave splendid colors in the way of lovely sepias and browns, with great brilliancy. The makers' formula for negatives is: Solution A: Water 10 ounces, metabisulphite of potash 35 grains, ortol 70 grains. Solution B: Water 10 ounces, carbonate of soda (cryst.) 1¼ ounces, sodium sulphite (cryst.) 1¾ ounces. For studio portraiture, etc., take one part A, one part B. For landscape negatives, take one part A, one part B, one part water. In the summer time add to one part B four to eight drops of a 10 per cent. bromide solution, or to use five to ten grains of bromide of potassium (cryst.) in ten ounces solution B.

Messrs. Ross, Limited, of London (G. Gennert, 24 E. 13th Street, New York, American agent) have been awarded, at the Brussels International Exhibition, a grand prize, a diploma of honor, a gold, a silver, and a bronze medal for the excellence of their lenses and optical instruments on exhibition there.

The Solubility of Platinum. In the *Photographische Chronik* it is mentioned that platinum, alloyed with silver, is soluble in nitric acid, and that it is possible in this way to dissolve most of the platinum present. The writer thinks this must be taken into account in toning silver prints with platinum. As a test for the permanence of a platinum-toned print, it is frequently recommended to drop nitric acid on the print and watch for the disappearance of the image. It would, therefore, seem that the test is valueless, as the platinum is in a very finely developed condition in the presence of traces of silver, and therefore soluble in nitric acid.

Toning. Dr. Eder reminds photographers of an old but very good and simple method of keeping solutions of chloride of gold in proper condition. Complaint is often made that the toning-bath only gives foxy-brown tones. It is important that the bath should be neutral if dark violet-black tones are required, and this condition is especially necessary with an acetate or borax-bath used before fixing. The stock solution of chloride of gold, usually kept diluted to 1 in 50 or 1 in 100, should be neutralized by the addition of a small quantity of precipitated chalk. This combines with the free acid, and keeps the stock in good condition. The solution may be filtered, but the sediment is harmless, even if it gets into the toning-bath.

Color in Light. The philosophy of color in light may be presented in this way: It is noted that the light from an electric arc, for instance, when seen near at hand, has a distinctively bluish color, but the same light when viewed from a distance appears yellowish, certain of its rays having been absorbed by the water vapor in the air on its passage to the eye. For a similar reason the sun is now, by some, considered to be a blue star; his light, which would appear intensely white and rich in blue rays especially, if it could be seen beyond our atmosphere, appears yellowish after it has passed through that atmosphere and lost some of its most refrangible constituent rays. The effects of absorption in producing color is seen in the fact that powdered bodies generally appear white, a fact accounted for when it is considered that a powder consists of particles arranged at all angles, so that the light falling upon it meets various surfaces, and is mostly reflected before it has passed below the surface, and thus the white light meeting it is not deprived of some of its constituents by selective absorption, as would be the case if it penetrated the substance and was then reflected. In this way powdered red glass appears white.

EDGAR WHITE BENSON, D.D.

LATE ARCHBISHOP OF CANTERBURY

ıy C. E Fry & Son, London.

A NOTABLE ENGLISH STUDIO.

THE STUDIO AND WORK OF MESSRS. C. E. FRY & SON, LONDON.

THERE is an indefinable charm about an English studio of the better sort, which, if the truth be confessed, is often lacking in the prominent photographic galleries of our own land. To say this is not to impute superiority or inferiority of attractiveness to the one or the other; rather it simply states a difference of environment resulting from the different conditions of business here and in England. It is, indeed, generally conceded that, in elegance of equipment and convenience, our American studios set the pace; the charm of the English studio consisting (as far as analysis can be attempted) in its freshness and naturalness, the absence of conventional decoration and furnishing, the quietness and homelike atmosphere of the place.

EXTERIOR OF THE STUDIO.

The studio of Messrs. C. E. Fry & Son, at No. 7 Gloucester Terrace, S. W., London —in the heart of the fashionable district of South Kensington — may be regarded as a good example of the studios of the kind mentioned. It was established in 1886, as a branch of the Baker Street establishment of Messrs. Elliott & Fry, to cater especially to the residents of the aristocratic west-end of the

C. E. Fry & Son, London.

PORTRAITS.

British metropolis. The *clientèle* of the studio, as may be surmised, is drawn largely from people of title and prominence at the English court, in the worlds of fashion, art, and music, whose activity make up what is

1. Entrance Hall. 2. Main Reception-room. 3. Reception-room, showing passage leading to studio.

generally known as a London season. In 1893 the partnership existing between Messrs. Elliott & Fry was terminated, and since that time the South Kensington studio has been conducted by Messrs. C. E. Fry & Son.

Facing upon Onslow Gardens, one of the many enclosed green spots which abound in the residential districts of London, the exterior of the establishment presents an attractive building in Queen Anne style. The place is roomy and abundantly lighted by leaded windows with cathedral tinted glass, which flood the apartments with a mellow light admirably adapted for their use.

The entrance hall, shown in the lower of the three interiors engraved together, gives a most favorable impression. The walls are furnished by means of white painted wood wainscoting and arras cloth

A CORNER OF THE LADIES' DRESSING-ROOM.

draperies. The pictures include paintings by Herkomer and other famous masters, with portraits of Liszt (taken on the occasion of his last visit to England), the Duke of Argyll, Lord Harris, and other notabilities. A rich Turkey carpet and a few pieces of Chippendale furniture add color and effectiveness to the general scheme. From this hall one enters the main reception-room, a spacious apartment shown in the two upper engravings of the group mentioned. As we recall a morning call, made during the early summer of 1895, this is a delightful room wherein to spend a very pleasant hour of waiting. Here the patrons of the place are seen, orders taken, etc. The walls are covered with

arras cloth of a soft shade of terra cotta, harmonizing with the dark oak panelled wainscot and polished floor. This combination, we may add, forms a very effective background for the display of pictures. The pictorial attractions of the room comprise miniatures, small and large portraits of statesmen, artists, and other celebrities. Here, as elsewhere, Chippendale furniture lends its grace to the general effect; bowls and vases filled daily with freshly cut flowers give a sense of freshness and leisure.

In the upper view of the three interiors we see the passage leading from the main reception-room to the studio. The ladies' dressing-room is entered from the right-hand side of this passage, and other retiring-rooms are provided along the way until the studio is reached. The engraving of the ladies' dressing-room which we offer does not convey an adequate idea of the cosiness of the place. Here the walls are tinted in distemper, and water-color sketches take the place of the usual photographs.

The studio is a long room, built out at the back of the ground floor, and measuring sixteen by forty-one feet. Its arrangement and illumination will be readily understood from the engraving. When desired, either end of the studio is available, so that portraits may be taken *vis-a vis*, and every sitter lighted according to his or her individual characteristics. Backgrounds fixed on multiform rollers, are provided at each end of the light, others being stored along the back wall of the room. Two electric arc lamps are included in the equipment of the studio, for use when daylight is not available—a not infrequent occurrence during these dull November days. Fancy photographic furniture is here eschewed in favor of the usual furnishings of the home, a fact which accounts, in some measure at least, for the

THE STUDIO.

easy and natural expressions seen in the portraits made by Messrs. Fry & Son.

The second and third floors of the building include the private rooms of Mr. Fry, rooms given up to retouchers, artists, negative storage, etc. The framing and packing-rooms are located in the basement of the building.

Turning to the work of the studio, we find it largely made up of special lines, such as portraits on porcelain, in colors, enlargements in autotype, crayon sketches and the like, with a due proportion of cabinet and panel portraits printed in platinotype, carbon, and albumen. A few examples, by no means representative of the choicest work of the place, are engraved to accompany this notice. These were chosen simply to show the prevailing manner of posing, lighting, and finish, being reproduced from cabinet vignettes printed on albumen paper. The portrait of the late Archbishop of Canterbury, Dr. Edward White Benson, is interesting as being considered the best of the many portraits taken of the deceased Primate of the English Church. We regret that the engraving is so inadequate a translation of the original print.

FRONT PAGE OF PRICE-LIST.

The figure-piece shows the front page of Messrs. Fry & Son's price-list and offers a dainty suggestion for a decoration of this sort.

Mr. C. E. Fry, the senior member of the firm, died suddenly, April 10th last. Since his death the business has been carried on by his son.

C. E. Fry & Son, London.

PORTRAITS.

A FEW LATTER-DAY PORTRAITS.

BY JOHN A. TENNANT.

WHATEVER may be the final outcome of the new movement in portraiture which has not inaptly been styled a renaissance, one cannot but be grateful for the changes it has already accomplished in directions where change seemed hardly to be expected. I do not here refer to the stimulus which the movement has given to the general practice of portrait photography, nor to the way it has opened up to better business conditions in many instances where its teachings have been intelligently applied, but to the radical change of base which it has effected in the profession concerning the principles of portraiture.

Willis & M'Quown, Crawfordsville, Ind.

PORTRAIT.

Take, for example, its uncompromising emphasis of the fact that the actuality of the subject is the vital essential of all true portraiture *per se*, we have only to glance over a display of modern portraits to see how widely this principle has become recognized. There have always been masters in photography, men such as Gutekunst, Brady, Landy, and Cox, who may be termed the leaven of the profession; now, however, the little leaven leaveneth the whole, and, by a happy fortune, the mass is being transformed, and there are many masters where before were few.

The pictures accompanying these notes offer striking illustration of this idea. They have been selected at random from a bundle of photographs sent in for *Mosaics*, 1898, but unavailable for lack of room. They come from Dusseldorf, Germany, Paris, Indiana, and Kansas. Mr. Hurd's "Moll Pitcher," given as a separate inset, may be included in the series. What is the dominant note of the selection, if not the actuality—the veritable individuality of the subject? When we have this note adequately interpreted in a portrait, we have not merely a man, or woman, or child, as the case may be; but we feel the mind or character of the subject, and our acquaintance is personal, not superficial. It is the note of truth, and surely if truth be in any way desirable, it is most of all desirable in the human documents which record, for to-day and to-morrow,

the likeness of one whom we admire or love for what he or she is in life.

It has been, and I suppose always will be, argued that with the majority truth is not held to be as desirable as conventional prettiness. It has been said with considerable emphasis that the presentation of bald facts in portraiture is a risky experiment. Personally, these arguments have never seemed to me worthy of serious discussion. The great success of a few portraitists who have given facts in their portraits effectually disposes of the question. But there is all the difference in the world as to the degree of skill with which the facts are presented in a portrait. I think it would be more honest to confess that few photographers know how to give truth in their work in such a way as to win and satisfy their patrons.

R. ED. LIESEGANG.

The portraiture of bald facts, considered from the business standpoint, does *not* mean the presentation with equal force of the whole of the personality of the sitter. This field belongs, by common consent, to the authors of "The Rogues' Gallery," where identification depends upon the uncompromising, truthful portrayal of the subject. In portrait photography as a business there must of necessity be selection, emphasis of what is desirable, subordination of all else. As it is in life and intercourse, so in portraiture; the honest word may repel and fail of its purpose by the force and totality of its expression; the tactful word may as well convey the truth and fulfil the end in view. Where we have grace, or strength, or beauty in the subject, we may give it fullest expression with confidence. But when we have to deal with "ordinary" or plain subjects, surely common-sense as well as business-sense suggests selection and emphasis of what is good in the personality, and the softening or concealing of all that opposes the implied intention of the sitter—to put on record what a friend may desire, the best part of the character. It is only necessary to think for a moment of the complexity of human life and the terrible muss so many folk make of it as a personal thing, to perceive how delicate and tactful a work it is to make a true portrait which will win business for its maker. And yet it should be attempted, because it is the truest way and pays best in the end.

Now let us look at our portraits. The honest sturdy man sent us by Messrs. Willis & M'Quown; the patient investigator and critical questioner seen in the portrait of Herr R. Ed. Liesegang; the womanly grace, the serious quietness of one who

has passed his prime, and the wondering trustfulness of the child in Mr. Bauer's pictures; the freshness and vivacity of Mons. Klary's portrait of a Parisienne, and the world-worn life that measures the future by the past seen in Mr. Hurd's "Moll Pitcher." Do not these facts strike you more favorably than the mere technique of the work? I am sure they do.

C. Klary, Paris.

A PARISIENNE.

I suppose some impatient one has asked 'ere this the weary question, Why does he not tell us how to produce such pictures, if they are so desirable? Ah! there's the rub. I am not ashamed to say that I cannot give the method of working. But I am very sure that those who produce such pictures only give what they see in the subject. It is not a question of lighting, or posing, or chemical effect. One simply cannot put it down in formulæ, but one can feel it and see it by mental processes started into action by the power of estimating character. Was it not Ruskin who said, "If you want to know a thing, draw it?" So it may be said with equal truth, "If you want to make a portrait, know your subject." This it was which made Sarony famous: he would insist on an intimate acquaintance with his sitters. Of course, you must know the elementals of photographic manipulation; what your light, your camera, your plate will do, and

P. Bauer, Leavenworth, Kans.

PORTRAITS.

something of art also; but it is rather late in the day to knead these into every article on photographic work. What we need is analysis and synthesis of personality, to separate, discriminate, and reveal the real man or woman in the individual before the camera. To do this is sometimes easy, sometimes difficult, but always absorbingly interesting, and when it is done tactfully it pays.

THE CAMERIST.*

BY WALTER SPRANGE.

ONE cannot very well see a pair of bright eyes glancing with interest above the finder of one of those convenient little masterpieces of modern science and mechanism, the hand-camera, without also noticing the evident look of intelligence which invariably follows the glance, and, to the observing and reflective a further study of the features which accompany those eyes will generally reveal the additional charms of culture and refinement.

Whether the hand-camera be in the hands of young people or of persons of mature age, its possession and use indicates a purpose—a desire to accomplish something, and, although the operator of the little instrument may be satisfied to go no further into photography than to make exposures of the negatives, that operation alone affords a wholesome pastime; sometimes results in souvenirs of subjects of interest which would have been obtained in no other way, and is always an incentive to mental and physical exercise—either indoors or out.

But more important than all this is the fact that the practice of carrying a hand-camera and seeking objects for exposure is of itself an education, calculated to open up new paths of thought and to lead many of its followers on to the appreciation and enjoyment of much that is beautiful in life, which they probably never would have noticed without the aid of its teachings. And it is because the use of the hand-camera offers such a varied scope for recreation and advancement that it has survived the novelty stage of its career with classes of users in turn, and has become the most popular pastime of this decade.

Any recreation which simply affords amusement soon becomes a mere "fad," indulged in by the aimless so long as it is a novelty; after that feature has died out some new form of amusement is taken up to replace it. All unscientific games have their day, die out, and become almost forgotten. "Croquet," "Roller-skating," "Euchre," and "Drafts" (in England) or "Checkers" (in America) have long ceased to be popular, while the older and more scientific games of "Cricket," skating on the ice, "Whist," and "Chess," have survived them, and may be cited as progressive pastimes in which the actual stage of perfection is seldom reached, and their pursuit will probably never be abandoned.

Photography is the most comprehensive discovery of the age. Aside from commercial portraiture—the purpose to which it was originally devoted—its more modern application as an aid to art and the sciences, its usefulness in illustrative work, and its adoption as a recreation by the practical amateur worker, it is no less valuable in the vast field it covers at the present time as a mere pastime for the many hand-camera users who are not practical workers, and are very aptly called "camerists."

A great many who are so-called carry the small magazine hand-camera and use it *ad libitum*, solely for the purpose of making

* Crowded out of Mosaics, 1898

their own souvenir photographs, the negatives being developed and finished for them by the commercial workers. This has become such an established practice that it is now one of the requirements of the times for the useful and valuable purpose it serves, and it probably will always continue.

There are also many users of the hand-camera who find that the pastime of view-seeking and taking affords all the recreation they desire, and again others who have either no opportunity or no conveniences for going into the practical work of photography.

With the majority of camerists, however, the hand-camera has generally been taken up at first as a light pastime, in which amusement and exercise can be combined without much effort, and the survival of the novelty stage of its existence with them is largely due to the fact that its use cultivates the mind and eye, creating a taste for improvement in picturesque or artistic rendering. In the selection of a subject, its arrangement and treatment, perfect satisfaction is seldom reached without repeated practice, and, after all other considerations have been studied, the varying factor of light, generally the most important one of all, requires the exercise of so much care and judgment, that it carries the principles governing the successful exposure of negatives with the hand-camera well up into the highest class of scientific pastimes, which bear repeated practice, and still offer possibilities of improvement. Hence it is that the camerists exceed any other class of pleasure seekers, and are still rapidly increasing in all countries.

Walter Sprange, Beach Bluff, Mass.

1. The Surf at Marblehead.
2. A New England Village Street.
3. A Massachusetts Lane.

A. N. Camp. Jamestown, N. Y.

A PICTURE-PORTRAIT.

WE count ourselves as most fortunate in being able to close this—the thirty-fourth—volume of the MAGAZINE with a collection of portraits which has not been equalled in our own pages or those of our esteemed contemporaries during the year. Apart from the quality of the illustrations, in which they speak for themselves, we have a just pride in pointing out to our readers that within the covers of this number they may secure selected examples of work from Messrs. C. E. Fry & Son, James Landy, R. Ed. Liesegang, C. Klary, Gustine L. Hurd, W. N. Brenner, Ph. Bauer, Willis and M'Quown, and A. N. Camp—all photographers advanced in their profession, and whose work is worthy of study from those ambitious to excel.

Special merit attaches to the frontispiece, "Orina," which comes from the studio of Mr. W. N. Brenner, of Cincinnati. We keenly regret that it was not possible to present the picture as it came to us—printed in warm black carbon, and beauti-

fully soft and delicate in effect. The Rough Velox paper, manufactured by the Nepera Chemical Co., shows the capabilities of the negative, however, in a way which is only surpassed by the unequalled tone-range of the carbon print. The subject "Orina" is the daughter of our friend, Mr. Brenner, and her face has already graced a previous volume of the MAGAZINE. Like her father, she has grown in facility of expression and understanding of life since last we saw her, and we congratulate the photographer and his charming model on the success with which they have worked together to produce this artistic piece of work for our pleasure and instruction.

Mr. Brenner began his career at Bucyrus, Ohio, and served for some time under the late Mr. Landy, of Cincinnati. A few years ago, having outgrown the possibilities of Bucyrus, he removed to Cincinnati, where he has laid the foundations of a successful business. His work has always been characterized by a quietness and grace which attracts and retains the patronage of a high-class *clientèle*. His pictures are for the most part printed on Willis & Clements Rough Platinum paper, although a growing proportion of carbon prints is turned out daily, the latter being rather difficult to introduce, says Mr. Brenner, "simply because of the higher price asked for them."

An apology is due to Messrs. C. E. Fry & Son for the engraving of the late Archbishop of Canterbury which, owing to some peculiarity in the tone of the original, does not present the vigorous gradation of tone existing in the albumen print from which it was made. The portrait is, of itself, thoroughly good, but the engraving does not do it justice.

In the case of our second inset, the engravers have fully translated the qualities of the original picture. Mr. Hurd deserves the highest praise for this fine example o character portraiture in which the historically familiar figure of "Moll Pitcher" is drawn to the life. Speaking of the making of "Moll Pitcher," Mr. Hurd says: "My model was an old woman who has for years

R. F. Turnbull. New York.

SUMMER SHADOWS: BRONX PARK, N. Y.

been a unique character about the streets of our city (Providence, R. I.), and realized, as fully as any I could hope to find my conception of the old fortune-teller. Such characters I find to lend themselves very graciously to your wishes if you cross their palms with money. I kept her about a little at different times and studied her natural attitudes, for I hold that when, for the purposes of illustration, you force a model into an unnatural pose an air of constraint is always apparent in the picture. I particularly noticed the habit she had of resting the side of her face against her open hand, and it seemed to work into the pose I was seeking very happily. She is very old, and I concluded could not be relied on to sit still for any prolonged exposure, so I gave her a great volume of light, subdued a little by cheesecloth, and made as short an exposure as I dared. Then, of course, I had to coax the plate for detail. The picture tells the rest."

The "Picture-Portrait" by Mr. A. N. Camp, of Jamestown, N. Y., is selected from his exhibit at Celoron, and shows the growth of this progressive worker.

"Summer Shadows in Bronx Park, N. Y." is given as a reminder of the lights and shadows of summer days which, now that winter is at our doors, are recalled with pleasant memories. It is the work of Mr. R. F. Turnbull, of our city, and deserves praise as an excellent bit of composition and lighting in photography outdoors. The picture was made after 4 P.M. with a cheap Waterbury lens, such as is used by the amateur.

JAMES LANDY.

JAMES LANDY, of Cincinnati, died at his home early on Thursday morning, November 18th. The immediate cause of death was a paralytic stroke, resulting from the progress of that insidious malady, Bright's disease, with which he had battled manfully for some time. Only a few days before his death our old friend wrote to us of an illness from which apparently he felt himself to be recovering, and the announcement of his passing away came to us, as it will come to our readers, as a wholly unexpected blow. In his death American photography loses a master in genre and portraiture, whose place will be difficult to fill, a staunch supporter of its worthiest traditions and principles, and a man whose personality and name were justly regarded with the highest honor and esteem. May the earth rest lightly on him.

Mr. Landy was born in New York City in 1838, and of the sixty years since passed had spent forty-seven in photography. His career covered the rise and development of photography in America, beginning in the palmy days when Plumbe, Brady, Gurney, Bogardus, Meade Bros., Root, and others were in the heyday of their fame. At an early day he was apprenticed with Silas A. Holmes (1850), and a few years later had shown sufficient power to place himself in charge of the operating-rooms of Messrs. Meade Bros., of this city, famous at that time as the leading workers in portraiture. Untiring in his ambition to excel, he gave up this post and set himself to outdoor work, making several series of 14 x 17 views of points of interest along the Hudson River, Niagara Falls, and at Washington, D. C. In 1863 he established a studio at Cincinnati, where he held sway until the day of his death. Soon after his arrival in Cincinnati Mr. Landy married, and from this union sprang two children, Dr. Edward Landy and Mrs. C. E. Wayland, both resident in Cincinnati, who, with Mrs. Landy, survive to mourn the irreparable loss which they have sustained.

This is the short biography of the man. Landy, the artist, lived in a realm of his own. Gifted by nature with discernment and judgment, an artistic temperament and a love of the beautiful, he brought to his work those gifts which made him famous. Of lofty aims and tender ideals his was an untrodden path, and from the mere copyist he became a creator, an apostle of high art photography. Step by step he climbed the difficult road to fame, giving to portraiture that grace of pose which showed the touch of the true artist, defying competition and imitation and placing a stamp upon his work which gave it a charm all his own.

His *clientèle* included a majority of men and women who have made themselves famous in almost every walk of life in this country. Presidents, statesmen, merchant princes, actors and actresses of note, masters in music and song, as well as hosts of the plain people who appreciated his genius, have passed before his camera and praised the artistic skill as they admired the sterling qualities of the man. We must not forget to mention the special regard he had for the thousands of children upon whom he lavished his wealth of appreciation of all that was true and beautiful. Among the pictures he sent us for the illustration of *Mosaics* was one which he had marked as that which he himself preferred to represent him before his fellow-workers in the craft. We reprint it here as his last tribute to the children; as showing also his delicate perception of the crowning attributes of childhood—simplicity and grace.

Out in the great world Mr. Landy's reputation rests secure, not only on his portraits of celebrities, but upon his studies of character and familiar themes in poetry and art. His interpretation of Shakespeare's "Seven Ages of Man" revealed a power previously unknown in photography on this side of the Atlantic, and won for him the unstinted praise of lovers of art and Shakespeare all over the globe. The originals of this series of pictures, which will be recalled by our older readers, hang in the place of honor in the Shakespeare Memorial Hall at Stratford-on-Avon. Their exhibition at the Philadelphia Centennial, at Paris, and elsewhere, secured for him many well-deserved awards.

James Landy, Cincinnati.

THE SISTERS.

Engraved by the Franklin Eng. Co., Chicago.

To many who have admired this famous production it will be of interest to know who posed as the models. During his life Mr. Landy did not care to satisfy the inquiry in that direction. Now, however,

there is no further need of concealment, and we are permitted to print their names. The motherly nurse is the venerable mother of Mr. Landy, and the child on her lap is a nephew of the famous sculptor, Sir Moses Ezekiel. For the schoolboy, a son of Pauline Hall, the actress, posed; and the lover was impersonated by Mr. William Castle, once a shining light on the lyric stage. Mr. Landy himself assumed the character of the soldier, and Russell Barrett, an actor, that of the justice. The character of the slippered pantaloon, and in "the last scene of all," was taken by Ezekiel Walker, a noted figure in his time, who lived a recluse for many years on Upper Main Street, Cincinnati, and died some time ago.

The earliest effort made in this direction by Mr. Landy was a series of twenty-eight *cartes de visite* pictures of laughing and crying babies, called "The Expressive Pets." This work was exhibited and medalled at the Vienna Exposition in 1873, and afterward had a phenomenal sale. The originals were secured by the Emperor William of Germany, and given a place in his Schloss at Berlin.

In 1885 Mr. Landy was elected President of the Photographers' Association of America, and with Mr. H. McMichael presided over the sixth annual convention of the Association, held during that year at Buffalo. At this meeting, which was one of the most successful of our national gatherings before or since, the old warhorses of the profession gathered in unusual strength. Papers were read by the veterans J. F. Ryder, James Inglis, Gustine L. Hurd, J. Traill Taylor, John Carbutt, Gustave Cramer, and Edward L. Wilson.

Following this Mr. Landy gave his attention to the production of two *genres* which will always be associated with the highest development of *genre* photography, "Man Know Thy Destiny" and "Hiawatha." These won for him the first and second (final) award of the Blair Cup and a medal at the Paris Exposition in 1889. In all, his skill brought him twenty-five medals from exhibitions held in this country and Europe.

While engaged in pursuing his art Mr. Landy did not forget the amenities of life. At all times and on all occasions he was a welcome guest, and his presence at meetings of the fraternity insured the best of good fellowship and social enjoyment. Being a man of commanding presence and powerful physique, he could hold his own in athletic exercises and outdoor sport, of which, until disease made him its victim, he was extremely fond. He was also a great collector of Indian relics, and his acquaintance with some of the chiefs of the noted tribes gave him an opportunity to be of signal service to General Foster, when some years ago he undertook a mission to the Sioux on an important matter to the government.

Mr. Landy was a thirty-second degree Scottish Rite Mason and a member of the Shriners. The funeral took place on Sunday afternoon, November 21st, from the Scottish Rite Cathedral, and the interment was in Spring Grove Cemetery.

HOW I MENDED A BROKEN NEGATIVE.*

BY H. W. IMMKE.

DURING our county fair, last September, a 5 x 7 negative of three young men, full figures, was accidentally cracked clear across, except the film was not broken. I had received $3 for one dozen cabinets, which probably would have been refunded, as it might have been inconvenient for all to come in again.

To avoid refunding the money, I took a

* Written for Mosaics, 1898, but received too late.

5 x 7 glass and cleaned it; poured a small amount, say half an ounce of balsam of fir in the centre of it, and laid the negative backside on top, pressing it down gradually and fastening strong clothespins clear around, pressing the two glasses together, and leaving it for twenty-four hours. The next day I scraped the balsam of fir from the edges and then wiped the edges with a cloth moistened with turpentine, when it was ready for printing after retouching it. The balsam filled the crack, so it was not noticed on the print. I let the light strike the negative square while printing.

A negative broken in two can be mended in the same way, except the centre of plate should be clamped on both sides of the crack, but not too near, so that the balsam will not come in contact with the clamp. This will squeeze out all the balsam of fir possible. Leave the plate in a moderately warm place for at least a week, to set, so that no balsam of fir can ooze through the crack and stick to the printing-paper. Clean the plate as previously stated. Any of the balsam which has oozed through the crack can be removed by wiping with a cloth moistened with turpentine. The negative can then be finished and retouched, including the crack, and so it will not show.

METHODS AND FORMULÆ.

The Stripping of Films from Glass. Herr Reisinger, who writes in the *Correspondenz*, has found that ordinary commercial transparency plates may be stripped satisfactorily by either of the following methods, and this quite as easily and well as is the case with plates specially sold as easy to strip. The author claims no fundamental originality in this matter, but merely that the methods are satisfactory; indeed, he credits Professor Lainer with the essential features of the second method. First method: The transparency being finished and dried in the usual way, the film is cut through with a sharp knife close to the edges. The plate is now immersed in a formalin bath, 80 c.c. of formalin to 1 litre of water, and it is allowed to remain here from five to fifteen minutes, after which it is again allowed to dry. Next the plate is soaked in a bath consisting of 1 litre of water and 40 c.c. of glycerine, and in this case, as before, it should remain in the bath from five to fifteen minutes, after which it is drained, and freed from drops of water by means of blotting-paper. The stripping is now easy if one corner is lifted by means of the point of a knife. Second method: The edges of the film are cut through as in the first instance, and the plate is soaked in a bath compounded of 200 c.c. of water, 10 to 15 c.c. of caustic soda solution 1 to 3, and 4 c.c. of formalin. In five or ten minutes the plate is washed with water and placed in dilute hydrochloric acid, where the film soon loosens, and an edge being detached the film is rolled up like a blind. If it is to be transferred to any material which cannot be immersed in water without damage, the rolled-up film can be unrolled on the new surface—any necessary adhesive being, of course, laid on first. Air-bubbles may be expelled by covering the film with a piece of waterproof-cloth, and using the squeegee in the usual fashion.

A good matt varnish is obtained by using a mixture of sandarac and mastic as follows:

Sandarac	90 parts.
Mastic	125 "
Ether	1200 "
Benzine	500 "

The mastic and sandarac must be first dissolved in the ether, and then the benzine

added. This varnish takes the pencil very readily, and becomes harder if heated.

A Practical Developer. Jacquez Joel contributes to the new edition of *Hammer's Little Book* the subjoined formula as excellent in practice, and leaving no stains on the fingers after manipulation:

No. 1.—Sulphite of Soda, hydrometer test 60.
No. 2.—Carbonate Soda, hydrometer test 30.
No. 3.—Take 12 ounces of No. 1, add to it 2 ounces Sulphurous Acid. Next add 1 ounce Pyrogallic Acid, then add 1 ounce pure Glycerine.

To Develop Take

2 ounces	Solution No. 1.
2 ounces	Solution No. 2.
1 ounce	Solution No. 3.

8 to 12 ounces of water, according to temperature.

Chemical Retouching. Retouching methods in which a chemical reagent is applied are frequently subject to the disadvantage that the action of the chemical is uncontrollable, either by reason of its rapid action or because its action continues after the touch with the brush has been made. In a recent issue of Lechner's *Mittheilungen* are some useful suggestions for so retouching a negative whitened by a bromide of copper-bath that the strokes of the brush operate by reducing the density. The negative is whitened by the usual bromide of copper-bath, which may be prepared by dissolving 1 per cent. of sulphate of copper and 1 per cent. of bromide of potassium in water. When thoroughly washed the required retouching is done with a 1 per cent. solution of hyposulphite of soda, fine or coarse camel's-hair pencils being used according to circumstances. Every now and again the whole surface must be washed freely with water so as to remove not only any unaltered hyposulphite, but also the soluble products formed by its reaction on the bromide of silver. By proceeding in this way the work may be performed in as leisurely a fashion as may be desired, and trial transparencies or even prints may be made from time to time. Obviously, if a print is made on a printing-out paper, the film should be carefully dried, but a transparency print may be made on another plate or on a development paper, from the wet plate, the two plates being laid together film to film under water, and exposure being made *in situ* if considered desirable. In the case of the development paper, the first bringing together may be under water, and contact may be established by means of a squeegee. What has to be most guarded against in such cases is the swelling of the least soaked film while in contact with that which is more thoroughly wet; therefore, exposure should be made without delay and the gelatine surfaces should be separated as soon as possible. It must not be forgotten that saturation of the film with water may considerably retard development.

John A. Tennant, New York.

MOLL PITCHER

Photograph by Gustine L. Hurd, Providence, R. I.

MODERN NEGATIVES AND PRINTING PROCESSES.

BY W. B. BOLTON.

THE subject has been quite recently discussed at one of the meetings as to whether pyro stain in a negative is advantageous or otherwise, and several practical workers have expressed their opinions decidedly in its favor. There can be little doubt, and I think no one will deny that, under some circumstances, the yellow color given to the film by the pyro developer results in a distinct improvement in the printing qualities of the negative; on the other hand, it is equally certain that, under other conditions, the effect produced may be the very reverse. Such a case in point has just occurred with me, and points a moral as to when and how the stain may be advantageous, and when otherwise.

Although the question has been considerably mixed up with others, I do not propose to enter into any discussion of what constitutes a perfect negative, or which is the best printing process for general use; my intention is rather to show how the treatment of the negative, as regards the production or avoidance of the stain, can be best carried out to suit other circumstances which are unavoidable.

I was asked a few days ago to take an "at home" portrait under conditions that involved a certain amount of difficulty. It was not a case in which I had much choice in lighting, or could dance my sitter all around the place until a satisfactory illumination had been secured, since that point was practically settled for me. The subject was an invalid lady who had to be taken in her favorite chair in her usual corner—in fact, in her "habit," as she was usually to be found by those who knew her best. The apartment was a large one, lit by three French windows opening on to the lawn, and facing nearly due south; but, very fortunately for me, the morning was a dull one, with no sun, though, not quite so fortunately, the light was very yellow. Consequently, although at ordinary times the room was well lighted, on the occasion of my visit the conditions did not look very promising.

To add to the difficulty, my subject's chair stands only about four feet from one of the windows, and when seated at her reading she is turned three-quarters from the light, so that the strong light falls upon her head and shoulders, and upon one-half of one cheek, the rest of the face being in deepest shadow. To still further decrease the chances of a successful issue, the dress was of black material, with, however, a good deal of satin ribbon to relieve its general sombreness, though this came generally in the deepest shadows; a light-colored knitted wrap was thrown over the shoulders, and a snow-white mob cap, with black satin bows, completes the description of the subject so far as the figure—of course, the principal object in a portrait—was concerned. It will thus be seen that the best-lighted portions of the figure were just those that could best afford to be in shadow.

Of course, some of my readers will say at once, "Why didn't you arrange for a different style of dress?" or, "Why not shift the chair into another position?" I can only repeat it was "Hobson's choice;" the portrait had to be taken as I have described it, not as I should have liked it, to make it easy.

Although the sitter's position was fixed, I had a certain amount of liberty in selecting my point of view, and was fortunately able to arrange so that the shadow side of the face was outlined against a light part of the wall; the surroundings generally were fairly evenly illuminated; it was only

the figure that, from its position, presented the severe contrasts I have described. At any rate, I did the best I could under the circumstances, gave the longest exposure I dare—about two seconds—and left the rest to Providence and "control" in development.

Before leaving I made other exposures on another sitter, though not in the same position, but in perhaps an equally difficult one, which served as "sighting shots" before proceeding to the development of the more important plates; and, as it proved, it was lucky I did so. The general conditions were the same, a generally bad light concentrated on a portion of the face, and a very short exposure, taking the conditions into account.

I have tried, and actually worked with, most of the developers that have been introduced; but, like a good many others, I generally fall back upon "pyro and ammonia" in all the ticklish cases or when I want to develop a plate "for all it is worth," as I did on this occasion. So I started with weak pyro and metabisulphite, one grain to the ounce, a minimum of bromide and ammonia solution added in small quantities as required, developing slowly and carefully to get all the detail possible with as little density. Result: face and shoulders strongly lit and almost opaque, detail in the shadows almost absent, and what there was, after fixing, overpowered by the inevitable stain—a result, in fact, that I should a short time back have thrown on one side as utterly useless, but that was before I had begun to study modern results and methods.

Feeling certain that metol in some form would "extort" more detail, I mixed up a modification of my favorite developer, metoquinone, using three grains each of metol and hydroquinone, and two grains of metabisulphite of potash to each ounce, with ammonia solution as required, as in the previous case. Although with this developer for ordinary subjects I use a certain proportion of bromide, on this occasion I omitted it, because with short exposures given the restraining action of the hydroquinone is quite sufficient to curb the "rush" of the metol, and I wanted to have as little unnecessary restraint as possible in the interests of the shadows. The result with this was a great improvement—considerably more detail and less density in the high-lights, so I proceeded with the same mixture to one of my important exposures.

As development proceeded I found the strongly lighted portions of the head and shoulders coming on too quickly to density, so I diluted the developer with one-half its original volume of water and ammonia in proportion, and had the satisfaction, rather to my astonishment, I must admit, of seeing every detail appear on the shadow side of the face, though at the same time the high-lights on the cheek and shoulders were becoming ominously black. However, I continued the development until the shadows began to veil, and then washed and fixed. The result proved better than I had originally anticipated, for, although the highest lights proved to be practically opaque, I had hopes that they could be locally reducud, while the shadow side of the face exhibited every detail, but so faintly and delicately, that I almost despaired of getting any printing result from it.

The second negative of the same subject was developed with the same developer reduced to one-third the original strength —*i. e.*, one grain each of metol and hydroquinone to the ounce, and resulted in an image with all the detail that was in the other, though even fainter, but the high-lights were beautifully clear and printable. The surroundings of the figure were in both negatives all that could be wished, because, as I have already said, they presented none of the difficulties.

So far as these negatives are concerned, if I had turned them out, say, no further back than a couple of years ago, I should simply have done the job again, as being the easiest way out of the difficulty; but during that later period I have been gradually learning that, in the opinion of a great many exhibitors and judges alike, what we used to call "under-exposure" is an artistic good point. So I set to work, although I am by no means an adept at "faking," to do what I could with my two productions. On the negatives themselves I attempted nothing beyond softening the harsh shadows and rounding the line of the cheek, and rubbing down with alcohol the highest light in the denser one. Then I bound them with gummed paper to ground-glass, and on the latter hatched and cross hatched all over the weak parts of the face, laying the lead on as thickly as I could over the shadows, while over the high-lights I put touches of gum-water to restore the transparency of the ground-glass. This was the full extent to which I dare let my "artistic" (?) capabilities run; but the result pleased both myself and my friends for whom the work was done.

Of course, the negatives were printed on gelatino-chloride paper, for I dread to think what the result would be upon albumen—especially weakly sensitized. And that leads me to say that I more than ever agree with what has been said more than once, and by more than one individual, that "perfection" in a negative depends, not only upon the class of effect that may be required, but also upon the printing process to be used. The careful and systematic worker will, of course, do the proper thing, and make his negatives to suit the process to be used in printing, while the more happy-go-lucky individual can console himself with the thought that, no matter what sort of negative he chances to turn out, there is sure to be some printing process that will give a decent result from it if he make a judicious selection.

As regards pyro stain, I think its advantages, where they exist, lie in connection with over-exposed rather than under-exposed negatives, where, with a plenitude of detail, the image stain—*i. e.*, the extra stain produced by oxidation under and in admixture with the silver deposit itself, will give that detail a printing value it does not possess in itself; but, in an under-exposed plate, devoid or nearly so of detail, the presence of any general or film stain only operates against what little detail may exist.

In conclusion, also, I am coming round to a belief in the legitimacy of a certain amount of, if not "faking," at least what Mr. Horsley Hinton terms "control" in printing. I do not think that any one can fairly object to the small amount of work I have described as put upon these negatives, nor do I consider it "faking." It is simply local control of the light in printing, and, if it succeeds in rendering printable detail *in the negative* that would otherwise be useless, it seems to me it is quite as legitimate in obtaining the same result by, say, intensification. It is an entirely different thing from *painting in* the same amount of detail, which I consider comes justly under the title of "faking."
—*British Journal of Photography.*

"PHOTOGRAPHIC MOSAICS, 1898."

"MOSAICS, 1898," is out and away to its readers in the four quarters of the globe, crowded with good things worth seeing, practical and pictorial, garbed in a new cover printed in red and gold, designed by Mr. Walter C. Greenough.

There is no need to "boom" *Mosaics*, 1898, here; our readers all know it by past

experience. Thousands of them already have it and are running through its attractive *menu*. But two-thirds of the large edition are sold and gone to their purchasers, so we desire simply to remind the fraternity that *Mosaics* is ready and that now is the best time to secure a copy.

The photographer who deprives himself of *Mosaics*, 1898, does himself an injury which ten times the cost of *Mosaics* spent in other ways will not adjust. Fifty cents invested in *Mosaics* secures fifty full-page pictures by such workers as Strauss, Rösch, Hollinger, Root, Kellmer, Varney, Harrison, Hurd, Betz, Heald & Erichsen, Pach Bros., J. F. Ryder, W. M. Morrison, Alfred Stieglitz, H. Randall, Dozer & McClain, E. B. Core, and J. A. Brush. It brings a collection of practical papers on practical work by photographers such as Somers, Estabrooke, Ferrand, Bartlett, Bell, Minns, Bachrach, Sperry, Beeles, Seavy, Bridle, McCrary, Judd, etc. Its instruction deals with affairs of everyday interest: "The Use and Abuse of the Lens;" "Cooling and Heating Dark-Room Solutions;" "Judicious Development;" "Individuality in Portraiture;" "The Adjustment of Development to Exposure;" "The Business End of Photography;" "Expression;" "How to Make Carbon Prints;" "The New (Old) Lighting," and other topics of equal usefulness. "The Review of the Year's Progress" gathers into 120 pages all the methods and formulæ of 1897 worthy of preservation. It is a book to read and re-read, with pictures inviting study and imitation. Of course you want *Mosaics*, 1898. But see to it that you do not delay getting it, or there may be disappointment. Send your order to-day, and, if you would be wise, order the library edition, which is strongly bound for the work-room bookshelf. Paper covers, 50 cents, post-free to any address. Library edition, $1, postage paid.

THE JEX BARDWELL HOME.

[NOTE.—Will the fraternity please note that Christmas is almost here and the Bardwell Home Fund *lacks fully one thousand dollars!* Surely American photographers will not fail the Fund Committee in this matter? Yet the *St. Louis Photographer*, and the *Beacon*, and the *American Amateur* all printed Mr. Ryder's appeal for the fund, and the total sum received and acknowledged by the three journals amounts to *twenty-five cents*.

We are all agreed that Mr. Bardwell has *given* valuable service to the fraternity; that his good wife and he deserve our help. It is only procrastination—the I'll-do-it-to-morrow idea—that causes the fund to grow so slowly. Do the good work to-day—and—well, make it an even dollar. Contributions may be sent to the office of this MAGAZINE, and will be promptly acknowledged, or to the office of any of the three journals above named, or to Orville C. Allen, 247 Jefferson Avenue, Detroit, Mich., the treasurer of the fund.—EDITOR W. P. M.]

HELLO! FELLOWS! I beg pardon, I mean all you gentlemanly and big-hearted photographers, from Maine to California. Have you sent in your little Christmas gift to any of the journals for the *Jex Bardwell Home Fund?* Yes, yes. I know some of you have; but "there are others" who will; I know you will do it, you would not be left out of so noble a work. I am only asking you to do it *right now*, before you forget it.

Jex Bardwell saved you a hundred dollars—possibly several hundreds—years ago, and now you have your chance to show him you have not forgotten it. In the house we are going to build him there will be

fitted up a spare room for you to sleep in any time you will like to occupy it. This room, for contributing photographers only, will be situated just under the slant roof, so of rainy nights—(rainy nights preferred)—you can dream of your boyhood, when mother tucked you in bed. Mrs. Bardwell will give you a comfortable cup of coffee, with ham and eggs for breakfast. Did I understand you had *not* contributed yet? This MAGAZINE will receive it. Now is your time.

J. F. RYDER.

CLEVELAND, OHIO, Nov. 15.

THE EASTMAN PHOTOGRAPHIC EXHIBITION.

WHEN, early in the year, the Eastman Photographic Materials Co., of London, and the Eastman Kodak Co., of Rochester, N. Y., announced an amateur competition, open to all users of the kodak, with $3000 in prizes to induce a lively competition, it was not generally thought that an event of unusual interest or importance was "billed to happen." The outcome of the competition is, however, a remarkable triumph for the "You press the button, we do the rest" photography, and the kodak is fairly started on a "boom" which promises to surpass the fever of its palmiest days.

The direct result of the competition comprised about 25,000 entries from kodak users in all parts of the world. H. P. Robinson, Andrew Pringle, and G. A. Storey, A. R. A., were chosen to act as judges. As soon as their labors were ended the New Gallery, in Regent Street, London, was engaged for the exhibition of the prize pictures. A special loan exhibition (non-competitive) was then arranged to include contact prints and enlargements from negatives by a few of the most prominent experts in the use of a kodak. Next followed further arrangements for a special class of technical exhibits demonstrating the possibilities of the Eastman products in every stage of manipulation. Another development was an apparatus section, devoted to the display of cameras, etc., manufactured by the Eastman Co.; and, finally, the affair was capped by the publication of a thirty-paged catalogue, printed on heavy antique, deckle-edged paper, a portfolio of photogravures, containing pictures made by the kodak in the hands of H. P. Robinson, Geo. Davison, J. Craig Annan, A. Horsley Hinton, Eustace Calland, and others equally known for artistic photography, with, we believe, a banquet as a wind-up. In this way it turned out that the best, and certainly the biggest photographic exhibition of the year was, not the old and famous "Royal," nor yet the new and fastidious "Salon," but the Eastman Photographic Exhibition, held at the New Gallery, Regent Street, London, from October 27th to November 15th, inclusive.

The exhibition is spoken of by our exchanges, and the London newspapers in general, as a revelation, not only of the artistic possibilities of kodak and film photography, but of the strange hold which this instrument has obtained in all parts of the world among men who were not suspected even of leanings toward the "pernicious" kodak habit. In the competitive and invitation classes, royalty, nobles, titled folk, the most eminent photographic workers, and plain people of the most ordinary sort met together in praise of the kodak, and the assemblage is conceded to have been a wonderful and inspiring sight to all lovers of good photographs.

It would be impossible to give a satisfactory review of the exhibition in the space permitted here, but we are informed that the exhibition is to be repeated, in an enlarged form, in New York during Janu-

ary next, and will therefore defer further remarks until we have had an opportunity for personal inspection. The National Academy of Design, the best place in our metropolis for such an event, has been engaged for the show, and the exhibition will be open from January 1st to 15th. Judging from all reports, and a glance over the exquisite portfolio issued as a souvenir of the London display, we would advise all our readers who can arrange it, to visit New York and the Kodak Exhibition some time during the first two weeks of the New Year.

FRIEDRICH VON VOIGTLÄNDER AT THE BOSTON CAMERA CLUB.

By a happy coincidence Friedrich von Voigtländer—the present head of the famous optical works of Voigtländer & Son, of Braunschweig, Germany—was in Boston on the day of the last regular meeting of the Boston Camera Club. A committee waited upon the illustrious stranger at the Parker House, inviting him to be the guest of the club, to which he readily assented.

In spite of the inclemency of the weather there was a large attendance, and the formality of electing several candidates to membership was quickly disposed of, immediately followed by the principal event of the evening.

Introduced by President Loud, Mr. von Voigtländer responded in almost perfect English, by referring to the generous hospitality extended to him during his flying visit to America, but refrained from even alluding to the subject of lenses, to the general disappointment of those present. Mr. Sprague finally induced the great optician to yield, and the result was an instructive and unbiased review of the history of photographic lenses. Mr. von Voigtländer laid great stress upon the fact that the recent achievements in photographic optics would have been impossible but for the wonderful improvement in optical glass, as first and exclusively made by Schott, of Jena, for which advance the constructive opticians of Germany had been waiting for years. Mr. von Voigtländer spoke in terms of the highest praise of Rudolph, Moser, Kaempfer, Miethe, and other mathematicians who, basing their calculations for new types of lenses upon the new glass (finally produced by Schott), brought about the greatest improvements in photographic lenses since the days of Petzval, over fifty years ago. Thus the old portrait-system—calculated by Petzval and materialized by Voigtländer (1839) and still unrivaled for studio-work—was not improved upon until about thirty years later, when the euryscope, a *symmetrical* lens-system, was launched upon its long and successful career. In the meantime, and some years after, a large number of similar lenses of various makes, but less rapid, were enjoying their full measure of popularity, the sources being England, France and Germany. The wants of the photographic profession now seemed pretty well supplied, as evidenced everywhere by productions which left nothing to be desired in respect to technical merit, when there arose in some corner a little wail, which was quickly taken up and reechoed from one corner of the photographic world to the other, until at last there was a positive clamor for a lens entirely free from spherical aberration or astigmatism.

How this demand was to be met became an agitating question with the opticians, and at last the anastigmat was born, emanating from the optical works of Carl Zeiss, and was at once received with favor. The success of this lens, the chief characteristic of which was the absence of astigmatism, stimulated other opticians to work on similar lines, and thus the double anastigmat was developed, supplying an increase of illumination and general definition, reducing astigmatism to a minimum.

This success in optical advance appeared to many enthusiasts to represent the extreme limit in optical research and constructive skill, when there soon appeared another candidate for popular favor, the arrival of which had been delayed by litigations, terminating, however, in favor of the owners of the patent—Messrs. Voigtländer & Son. The name of this new rival is the Collinear, which owes its origin to the untiring efforts of the mathematicians, Dr. Kaempfer and Dr. Miethe, colaborers of Mr. Friedrich von Voigtländer.

The speaker was not stinting in his praise of the great work accomplished by his two associates, and did not even refer to the assistance which, in many ways, he himself must have contributed to this remarkable achievement. Inasmuch as Series II. of the Collinear lens has a full working-aperture of $f/5.5$, against the double anastigmat with an extreme opening of $f/7.7$—*hence being twice as rapid*

—it is evident that the Collinear embodies the greatest optical perfection that is possible with the present kinds of optical glass furnished by the works at Jena.

While rejoicing in the accomplishment of a lens, now made in three different series, which does away entirely with the bugbear "astigmatism," having also the power to illuminate the plate evenly from edge to edge and to work with the utmost rapidity, Mr. von Voigtländer did not neglect to pay his respects to the regular portrait-lens still being made practically upon the Petzval system. He stated clearly and emphatically that this lens, which has found a permanent home in nearly every well-regulated studio throughout the world, is *alone* capable of producing the soft, round, plastic and delightful effect in portraiture, which is the artistic standard in this branch of photography for all time.

Fortunately, the speaker was able to emphasize his concluding remarks by directing the attention of those present to the exquisite portrait work effectively printed on Willis & Clements' platinotype paper by Henry H. Pierce, the leading photographer of Providence, R. I., who was present as an invited guest. This artist had brought, by request, a superb collection of portraits in various sizes up to 14 x 17, several specimens of which had won for him substantial honors at the last prize competition of the New England Photographers' Association, and he naturally felt not a little pleased to have been able to so successfully illustrate the art-theories of the greatest living optician. When asked with what instrument he produced such superb works of art, he replied: "A regular Voigtländer portrait-lens No. 8."

The members viewed the photographs with much satisfaction, the interest being heightened by the critical remarks made by Mr. von Voigtländer. A pleasant and instructive evening was passed, and the occasion, in view of the interest imparted to it by the chief guest, will doubtless be recorded as one of the important events in the history of the club.

SOME RECENT PHOTOGRAPHIC PATENTS.

[OUR readers can obtain copies of these patents, at ten cents each, from Messrs. Alexander & Davis, patent attorneys, Washington, D. C., by whom this list is supplied.]

PLATE-HOLDER. C. A. Lindsay, Washington, D. C. No. 592,148.

This comprises a light-tight envelope to be used for packing sensitized plates for sale and use without a changing box. It is so constructed that the plate in its light-tight envelope may be placed in the usual holder in daylight, and the envelope is removed at the moment of pulling out the slide in the camera. The plate, in its envelope, is inserted in the holder in the ordinary manner.

EXPOSURE SHUTTER. W. V. Esmond, assignor to E. & H. T. Anthony & Co., New York. No. 591,347.

This invention covers a movable wing provided with an exposure opening, a spring plate attached to the wing, a flat perforated diaphragm adapted to be slipped under this plate.

KINETOGRAPH CAMERA. H. J. Heinze, London. No. 593,376.

In this apparatus the patented device controls the movement of the film so that it is moved intermittently by means of reciprocating grippers which alternately grasp and release it during the period of exposure.

EDITOR'S TABLE.

NEW ROSS-ZEISS LENSES.—Mr. G. GENNERT, 24 East 13th St., New York, American agent for the Ross lenses, announces two new series of the famous Zeiss objectives, manufactured by Messrs. Ross, limited. These are the Ross-Zeiss Planar Lens, series *1a*, made in nineteen sizes; and the Ross-Zeiss Telephoto constructions.

The Planar Lens is adapted for the instantaneous photography of objects in motion, portraits and groups, kinetographic pictures, photo-micrographic enlargements and reductions, process work and copying. The rapidity of the lens, which works at $f/3.8$, is such that, as a rule, only one-eighth the usual exposure is required. Full particulars can be had on application to Mr. GENNERT, at the address given above.

THE PENNSYLVANIA CONVENTION, to be held at Bellefonte, Pa., February 23, 24, and 25, 1898, is to have as a feature of its exhibition a special competitive class for photographers outside of Pennsylvania. In this class the requirement is for one portrait only, and a gold and silver medal are offered. This class deserves special attention from the fraternity. The prospects for the convention indicate a most profitable meeting; Prof. GRIFFITH, of the Detroit Museum of Art, has been secured as lecturer. All information can be obtained from the Secretary of the P. A. of Penna., T. B. CLARK, Indiana, Pa.

THE NEW G. B. P. R. LANTERN AND TRANSPARENCY PLATE, just introduced by the M. A. SEED DRY PLATE CO., fills a need long experienced by lanternists and amateur photographers. The emulsion is practically grainless, and the plate gives beautiful green, brown, purple, and red tones with simple manipulation. We have given the new plate a careful trial, and can commend it with confidence as offering a wide range of color possibilities and certain results combined with ease in working. Exposure is best made with a length of magnesium ribbon, and development with hydrochinon, according to the SEED CO.'s formula, will bring the desired result. The plates can be had from the M. A. SEED CO.'s works at Woodland, Mo., or the New York office, 57 East 9th Street.

AMERICAN GELATINE PAPER is announced at 57 cents per gross, cabinet size, in a recent circular received from the trade agents, Messrs. E. & H. T. ANTHONY & CO., 591 Broadway, New York. This figure is surely rock-bottom as far as printing-out papers are concerned.

GOLD AND PLATINUM solutions of standard purity and efficiency are manufactured by the BOSTWICK, HARRISON CO., and can be obtained from all dealers. We recommend the various specialties of this firm to our readers.

MR. C. A. SCHINDLER, West Hoboken, N. J., has just introduced an antique carved chair, with high ornamented back and leather seat, which should prove serviceable in the studio or reception-room for fancy portraiture or general use. The same maker announces a special reduction on a similar chair to the above, of which he has only a few in stock, and those needing artistic furnishings for the studio will do well to send to him for prices and particulars.

AN INTERNATIONAL SALON AND EXHIBITION will be held at the Carnegie Library Art Galleries, Pittsburg, under the auspices of the Pittsburg Amateur Photographers' Society, January 11th to 21st. Particulars may be obtained from JOSEPH H. HUNTER, 520 Green St., Pittsburg.

H. A. HYATT, of St. Louis, sends from his fine new stock-rooms, at 410 N. Broadway, a collection of interesting announcements of his end-of-the-year photographic novelties. These include the photo-button; the L. M. J. embossed paper frame; some bargains in "royal" blotters, rustic posing tables, and rattan chairs; the new platino magic vignetter, and Peck's pneumatic retoucher.

A Story, Founded on Fiction and Based on Fact, is the curiosity-awakening title of a little red booklet just issued by REICHENBACH, MOREY & WILL CO., Rochester, N. Y. A copy can be had free for the asking, and it is worth the postage stamp.

"WHAT IS NATIONAL PLATNI?" is the question of the day among Eastern photographers. It is answered with a dainty specimen print, in an artistic folder, designed and printed by WILL BRADLEY, of poster fame, and issued by the National Photo Paper and Chemical Co., Springfield, Mass. Get a copy.

OFFICE OF THE AMERICAN ARISTOTYPE COMPANY.

JAMESTOWN, N. Y., Nov. 8, 1897.

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